MULTI-CHANNEL
DIGITAL VIDEO RECORDER

Version 92040729

Introduction

This manual is for the users who attempt to use Multi-channel Digital Video Recorder (MDVR). It illustrates features, installation guide, connecting to peripherals, and Graphic User Interface (GUI) operation. Please familiarize yourself with the contents in this manual before using the DVR. Make sure that you have referred to an expert when opening the outer case for repair or installing HDD. If you have any inquiries or questions on the products, please consult to your local dealer.

When you have received your new MDVR system, inspect the contents of the package to verify that all units have been shipped before you begin the installation process.

Caution Several connectors on the rear panel of the MDVR system are keyed and must be properly aligned before inserting them into the port. Failure to align the plug can damage connector's functionality.

Caution

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING

To prevent fire or electric shock, do not expose this product to rain or moisture. Dangerous high voltages are present inside the enclosure. Do not open the cabinet. Refer servicing to qualified personnel only.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

About This Product

USA

This product has been tested and found to comply with the limits of a Class A computing device pursuant to part 15 of the FCC rules, which are designed for reasonable protection against harmful interference when operated in a commercial environment.

Europe CE

This product adheres to the requirements for radiated emission according to the limits of the European Standards.

Liability

This manual has been taken every care for user when preparation. If user detected any inaccuracies or omissions, please contact your local vendor for more information.

Legal Consideration

Camera surveillance may be against the laws that vary from country to country. Please check the laws in your local region before using this product for surveillance purpose.

Electromagnetic Compatibility (EMC)

This product can generate and radiate radio frequency energy, and if not installed or used followed by the instruction manual, may cause interference to radio communications. Operation of this product in a residential area is likely to cause interference, in which case the user will be required to take whatever measure and cost to correct the interference. To ensure compliance with EMC, shielded cables should be required to use with this product.

Table of Contents

Chapter 1 Products Overview 9
1.1 Unpacking 9
1.2 DVR Overview 11
1.2.1 DVR Functions and Features 11
1.2.2 DVR Front Panel 12
1.2.3 DVR Rear Panel 13
1.3 Multi-Keyboard Overview 14
1.3.1 Keyboard Front Panel 14
1.3.2 Keyboard Rear Panel 15
1.4 Remote Controller 16
Chapter 2 Hardware Installations with DVR 17
2.1 Cautions in Installation 18
2.2 HDD Installation 19
2.3 Multi-Keyboard & MDVR Connections 20
2.3.1 Single Multi-Keyboard with Single MDVR Connection 20
2.3.2 Single Multi-Keyboard with Multiple MDVRs Connection 20
2.3.3 Multiple Multi-Keyboards with Single MDVR Connection 21
2.3.4 Multiple Multi-Keyboards and MDVRs Connection 21
2.4 Video Output Connection 23
2.4.1 Connect with CCTV Monitors 23
2.4.2 Connect with TV 23
2.4.3 Connect with CRT or LCD Monitors 24
2.5 Network Installation 25
2.5.1 Connect with DVR 25
2.5.2 Setup LAN Configuration in DVR Main Manu 25
2.6 Cameras Installation 26
2.6.1 Connect with Cameras 26
2.6.2 Setup RS-485 in Main Menu to Control Cameras 26
2.6.3 Setup Camera ID & PTZ Camera Enable in DVR Main Menu 27
2.6.4 PTZ Camera Control 28
2.6.5 Set Preset for PTZ Camera 29
2.6.6 Goto Preset 30
2.6.7 Setup Camera Adjust in DVR Man Manu 31
2.6.8 Setup Camera Action in DVR Main Manu 32
2.6.9 Setup Camera Title in DVR Main Manu 33
2.6.10 Setup Sequence Time in DVR Main Manu 34

2.7 Alarm Setup 35
2.7.1 Connect with Alarm Devices 35
2.7.2 Connecting to DVR 36
2.7.3 Setup Respondent Cameras for Alarm in DVR Main Menu 37
2.7.4 Setup Alarm Out Enable in DVR Main Menu 38
2.7.5 Setup Alarm In Type in DVR Main Menu 40
2.7.6 Setup Alarm Response in DVR Main Menu 43
2.7.8 Setup Alarm List in DVR Main Menu 45
2.7.9 Setup Motion in DVR Main Menu 46
2.7.10 Setup Alarm/Motion Setup in DVR Main Menu 47
Chapter 3 Basic Operations 48
3.1 Single Screen 48
3.2 Single Screen with Zooming 49
3.3 Display Screen 50
3.4 Sequencing Screen 53
3.5 Main Menu Screen 54
3.6 List Screen 55
3.7 Help Screen 58
3.8 Playback Screen 59
3.9 Freeze 60
3.10 Keyboard Lock 60
Chapter 4 Menu Setup 62
4.1 Main Menu Overview 62
4.1.1 Menu Tree 64
4.2 Camera 65
4.2.1 Camera Adjust 67
4.2.2 Camera Action 68
4.2.3 Camera Title 69
4.2.4 Camera Sequence Time 70
4.3 Display and Language 71
4.3.1 Screen Center Point & Size 71
4.3.2 Date/Time Position 72
4.3.3 Camera Title Type 73
4.3.4 Date/Time Display 74
4.3.5 Clock Mode 75
4.3.6 Anti-Flicker 76
4.3.7 Test Pattern 77
4.3.8 Language 78

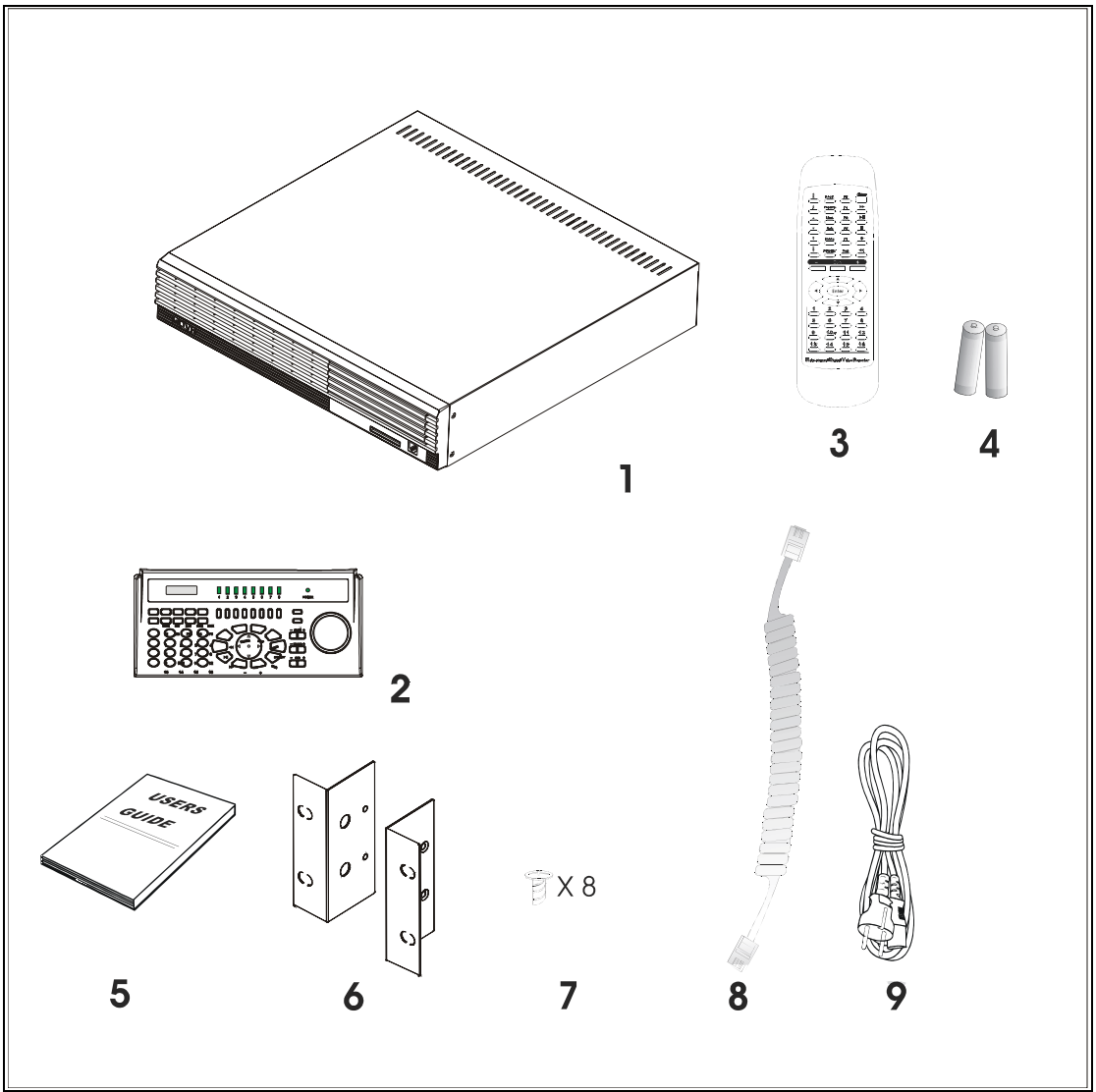
4.4 Record 79
4.4.1 Record Setup 79
4.4.2 Frame Rate 81
4.5 Alarm/Motion Setup 84
4.5.1 Alarm In Event 84
4.5.2 Alarm Out Enable 85
4.5.3 Alarm In Type 87
4.5.4 Alarm Response 88
4.5.5 Alarm List 90
4.5.6 Motion Setup 91
4.5.7 Alarm/Motion Enables 93
4.6 Schedule 93
4.7 Installer Setup 96
4.7.1 Date/Time Setup 96
4.7.2 LAN Setup 97
4.7.3 RS-485 Setup 98
4.7.4 Camera ID Setup 99
4.7.5 Password Setup 100
4.7.6 Password Management 101
4.7.7 Auto Demo 103
4.7.8 Make Boot Disk 104
4.7.9 Compress Information 105
4.8 System Information 107
4.8.1 DVR 107
4.8.2 Disk 108
4.8.3 Video Size 109
4.9 Save/Load Configurations 110
4.9.1 Save/Load 110
Chapter 5 System Operation 111
5.1 How to Set Recording 111
5.1.1 Sample System Configuration 111
5.1.2 Schedule Setting 113
5.1.3 Alarm In and Alarm Out Setting 114
6.1.4 Motion Detection Setting 116
5.1.5 Frame Rate, Quality, and Recording Time Setting 117
5.1.6 Enable Recording 119
5.1.7 Check Recording 120
5.2 How to Estimate Recording Time 121

5.3 Image Backup System 122
5.3.1 CF Card Backup System 122
Chapter 6 Trouble Shooting 126
6.1 Installation 126
6.1.1 The DVR is not power on 126
6.1.2 Power is on, but the DVR dose not operate 126
6.1.3 Images are not showing on the monitor 126
6.1.4 The picture quality on the monitor is poor 126
6.2 Recording 127
6.2.1 The DVR will not start recording 127
6.2.2 The DVR can not perform alarm recording 127
6.3 Playback 127
6.3.1 The DVR can not perform playback 127
6.4 Others 127
6.4.1 The DVR will not detect motion 127
Appendix A: Specifications 128
Appendix B: Recording Time and HDD Space 131
Appendix C: Glossary 132

Chapter 1 Products Overview

1.1 Unpacking

Please place the product on a flat surface to inspect if there is any part missing among the following items list.



Item	Name and Description	Pcs
1	Mainframe	*1
2	Front Keyboard	*1
3	IR Remote controller	*1
4	AAA NO.4 Battery: for IR Remote controller	*2
5	User's Manual	*1
6	Rack Mount Ears	*2

7	RS-485 Cable 40 CM: used to connect Mainframe and Front Keyboard	*1
8	AC Power Cord	*1
9	IDE Cable 40CM	*2

Note: If there any part is missing or damaged, please contact your local vendor as soon as possible.

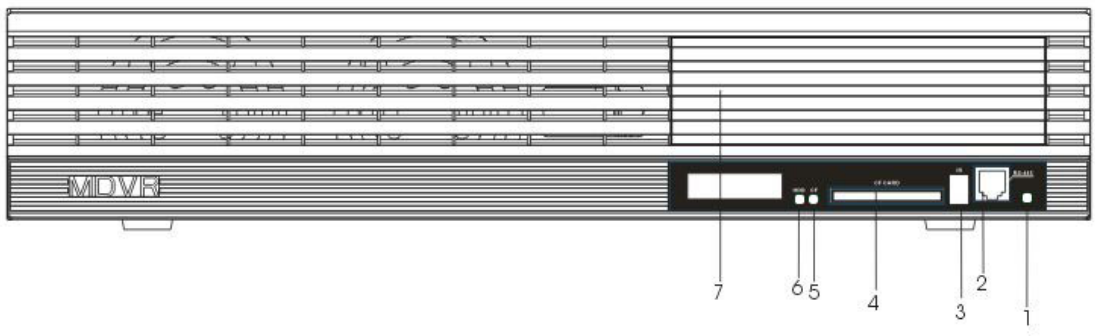
1.2 DVR Overview

1.2.1 DVR Functions and Features

Key Features:

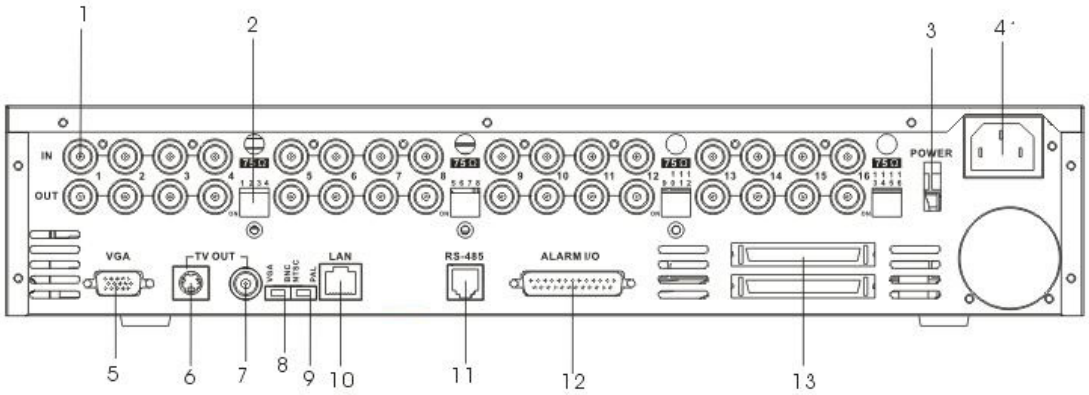
- Reliable and Stable Stand-Alone System
- Individual Unit Accommodates 8/16 Camera Inputs
- Simultaneous Real-Time Recording, Live Images, Playback and Networking
- MPEG2-Like and JPEG Compression Algorithms
- 16 Alarm Inputs, 4 Alarm Outputs And 1 Relay Output
- Programmable Recording Schedule and Frame Rate Setting
- High-Speed Searching by Time or Events
- Remote Viewing, Access and Control via LAN/WAN/INTERNET
- Support Various PTZ Cameras
- Support RAID Disk (Option)
- CF Card Backup Mode
- Remote 16-Channel Playback
- Evidence Preservation Lock

1.2.2 DVR Front Panel



1	Power Indicator	This light Indicates the power status of the DVR.
2	RS-485 Connector	This port is a socket for RS-485 of front keyboard..
3	IR Receiver	This receiver is for infrared remote controller, **NOTE:** keep the receiver from disturbs for IR remote controller.
4	Compact Flash (CF) Card Socket	This socket is for user inserting a CF Card to backup files from HDD or internal CF Card. **NOTE:** Please don't remove CF Card while power on.
5	CF Card Indicator	This light Indicates the CF card status of the DVR.
6	HDD Indicator	This light Indicates the HDD status of the DVR.
7	Reserved CDRW / DVDRW Socket	**Only Advanced Model** will come with CDRW/DVDRW driver.

1.2.3 DVR Rear Panel

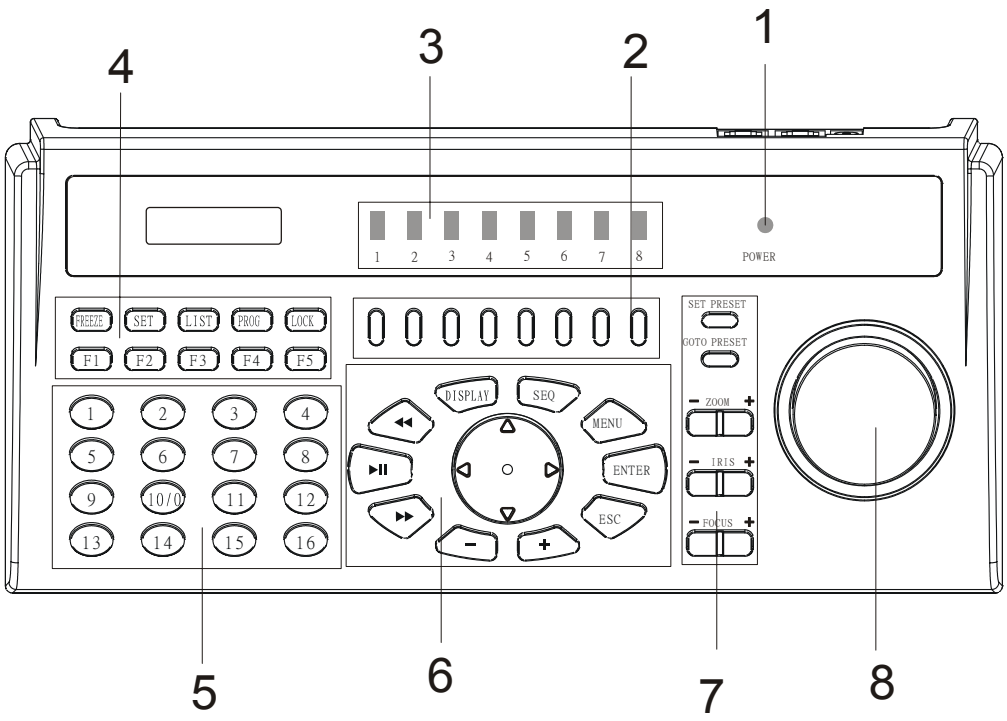


1	Video-In Looping and Video-Out Connector	This BNC connector is used to connect a camera or video output of another DVR.
2	Dipswitch	This dipswitch sets Video Looping Terminal Resistor. **Note:** Set ON, if there is no video looping.
3	Power Switch	This button sets power ON or OFF.
4	Power Core Connector	Power Core input.
5	VGA Out Connector	Provides VGA signal.
6	S-Video Out Connector	Provides S-Video signal.
7	BNC Out Connector	Provides a composite video signal.
8	VGA/BNC Switch	Switch VGA or BNC.
9	NTSC/PAL Switch	Switch NTSC or PAL
10	LAN Port Connector	Provides a standard RJ-45 socket for 10/100 Mbps Ethernet networks.
11	RS-485 Port Connector	This socket is a RJ-11 connector. It provides a RS-485 control signal port.
12	ALARM I/O Connector	Receives/Provides alarm I/O signals.
13	IDE RAID Connector	(Optional). IDE RAID connector port.

1.3 Multi-Keyboard Overview

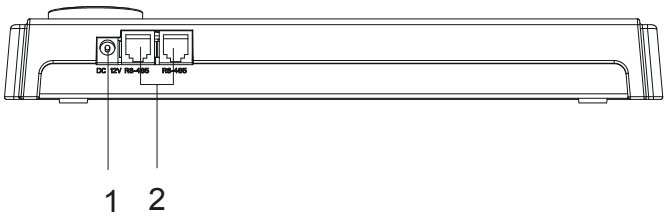
The Multi-Keyboard is designed for User(s) more conveniently to control the MDVR(s).

1.3.1 Keyboard Front Panel

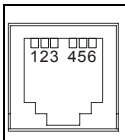
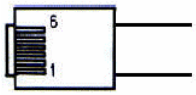


1. Power Indicator
2. DVR ID Buttons
3. DVR ID Indicators
4. Keyboard control Functions
5. Channels Control Buttons
6. Playback Control Buttons
7. PTZ Cameras Control Buttons
8. Encoder

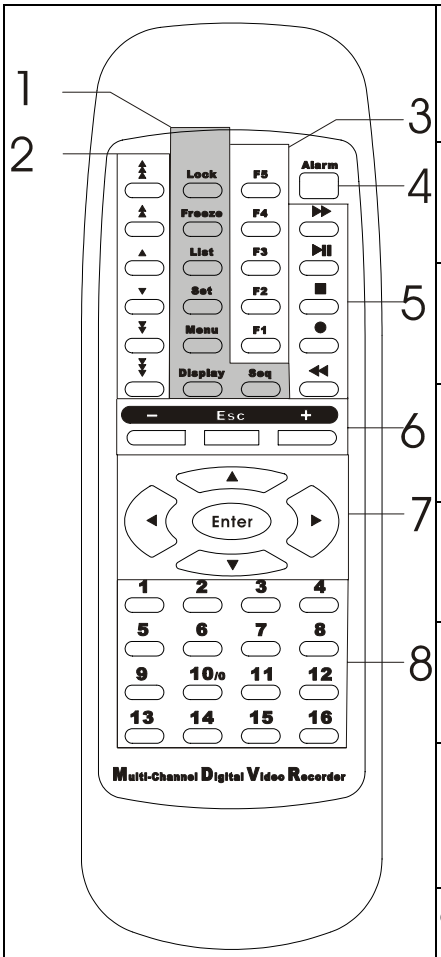
1.3.2 Keyboard Rear Panel



1. Power Cord Jack
2. RJ11 Connector (for RS485)

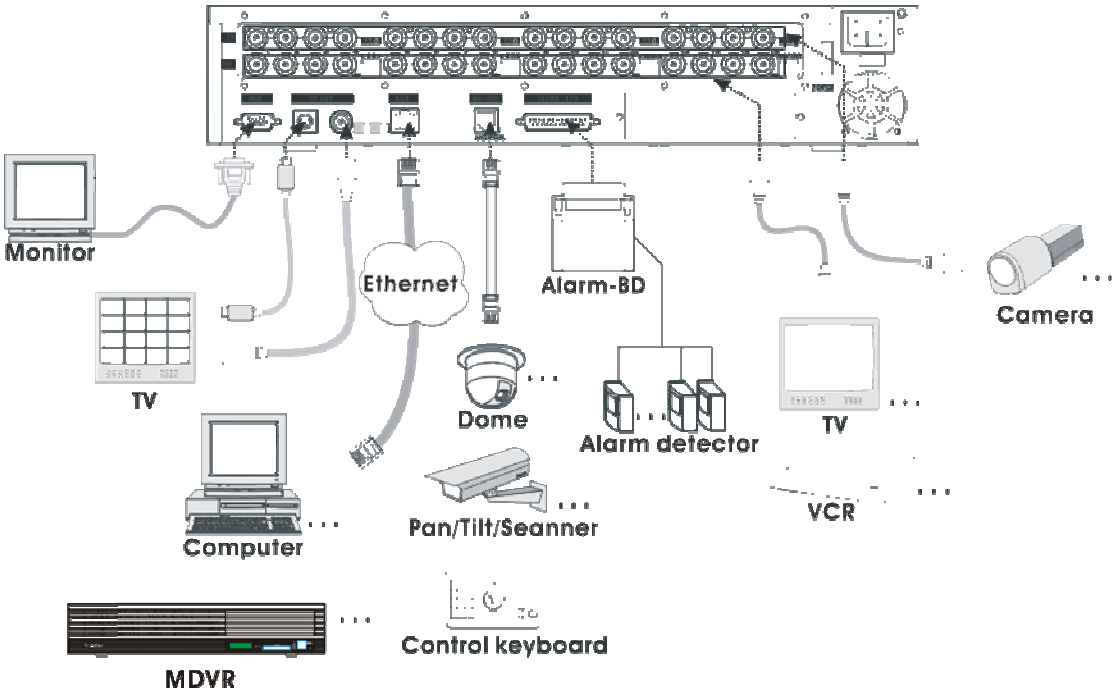
	Pin no	Pin define
	1	No Connected
	2	DC +12V
	3	GND
	4	DATA A (+)
	5	DATA B (-)
	6	No Connected

1.4 Remote Controller

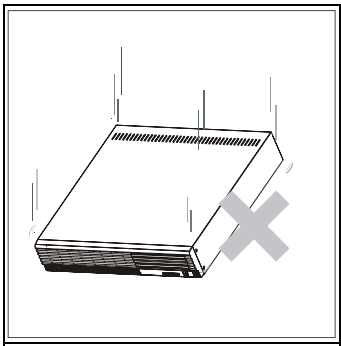
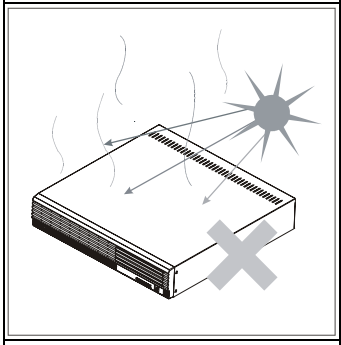
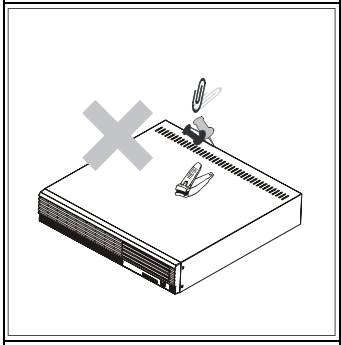
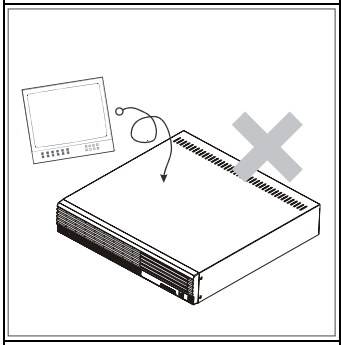
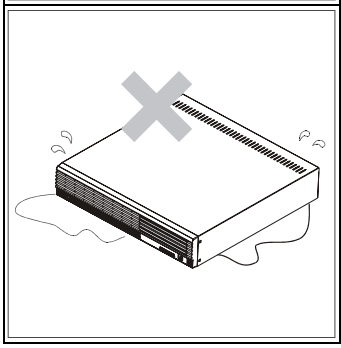


1	DISPLAY MENU SET LIST FREEZE LOCK SEQ Provide basic function operations.
2	Replace the Keyboard encoder Knob.
3	F1 F2 F3 F4 F5 Basic operation keys.
4	Alarm key. Press this button to trigger alarm signals to the DVR.
5	◀◀ ● ■ ▶II ▶▶ Provide playback operation.
6	− ESC + Function keys for setting menu
7	Enter Function keys for setting menu
8	1 ~ 16 Select video channel directly.

Chapter 2 Hardware Installations with DVR

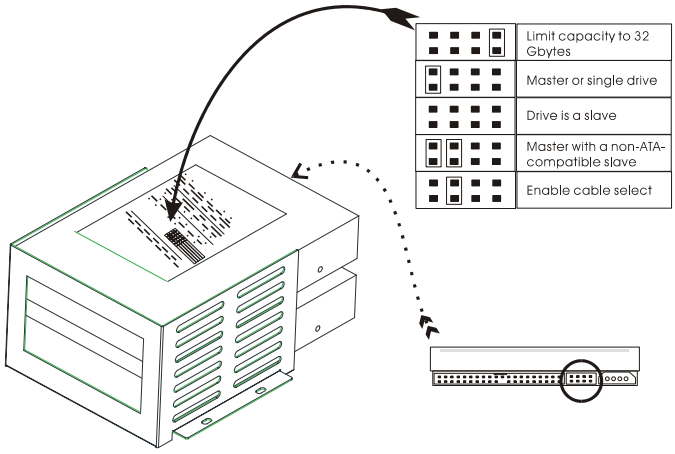
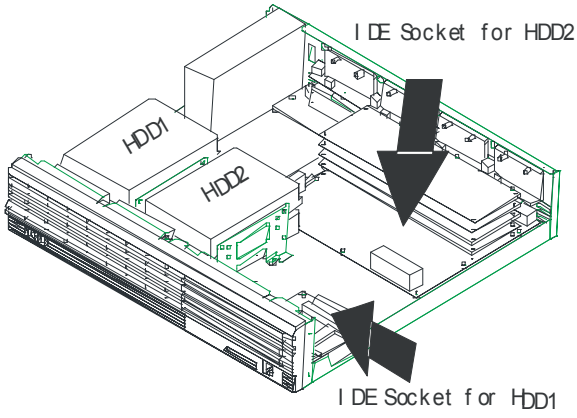


2.1 Cautions in Installation

	Severe impact or vibration may cause malfunction.
	Avoid a direct ray of light, and keep the safe distance between crowded place and the product as well as its assemblies.
	Be careful not to insert any conducting material in the ventilation space of product.
	Avoid places with strong magnetic or electrical field, or places near a radio or TV.
	Always keep the place dust-free when installing or moving DVR.

2.2 HDD Installation

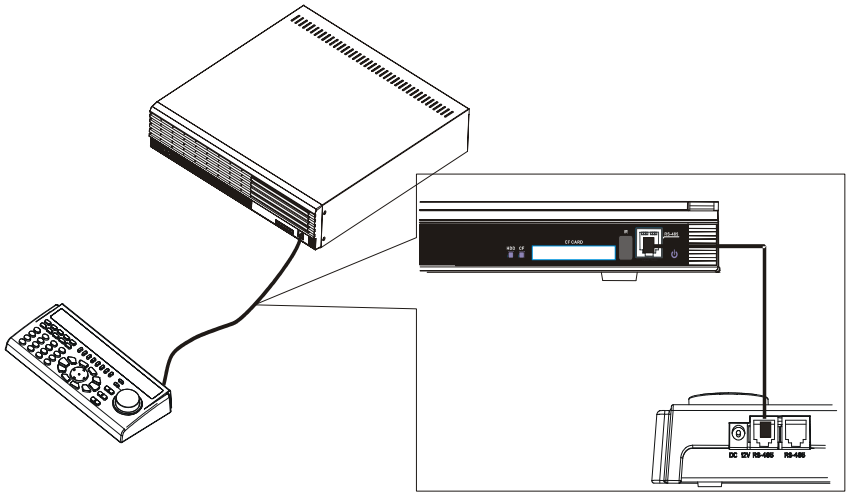
To install Hard Disk for DVR, make sure turn off the power switch of the DVR rear panel and pull off the power plug from the socket first. Afterward using cross screwdriver removes all screws around the case to open the DVR's upper case, and then follow the three steps below to install the Hard Disk for DVR.

	STEP 1	Set IDE selectable jumper correctly as default configuration on the HDD before installation. (It must refer to HDD user guide) Please note the one is set to Master, the other one is Slave, and no HDD brand is limited.
	STEP 2	Use IDE Cables to connect with HDDs and IDE sockets.

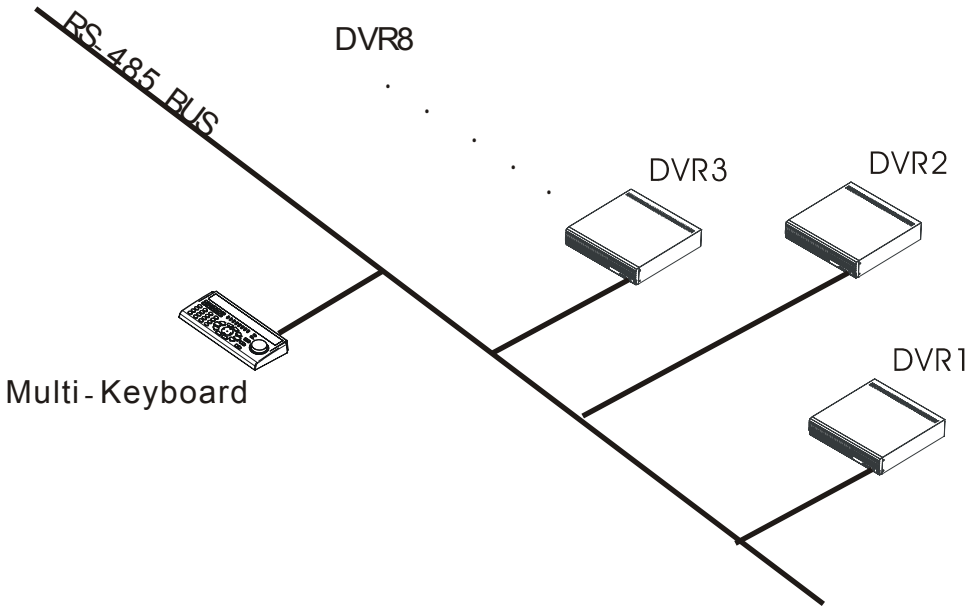
2.3 Multi-Keyboard & MDVR Connections

Use Multi-keyboard RS-485 port to connect MDVR's front RS-485 port. There are 4 variable connections for MDVR(s) and Multi-Keyboard(s):

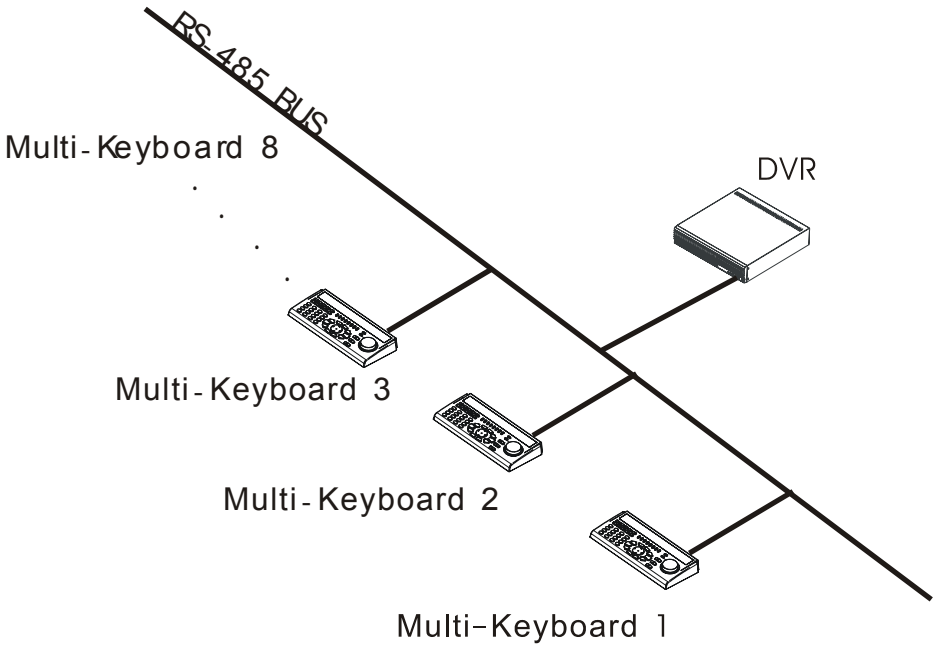
2.3.1 Single Multi-Keyboard with Single MDVR Connection



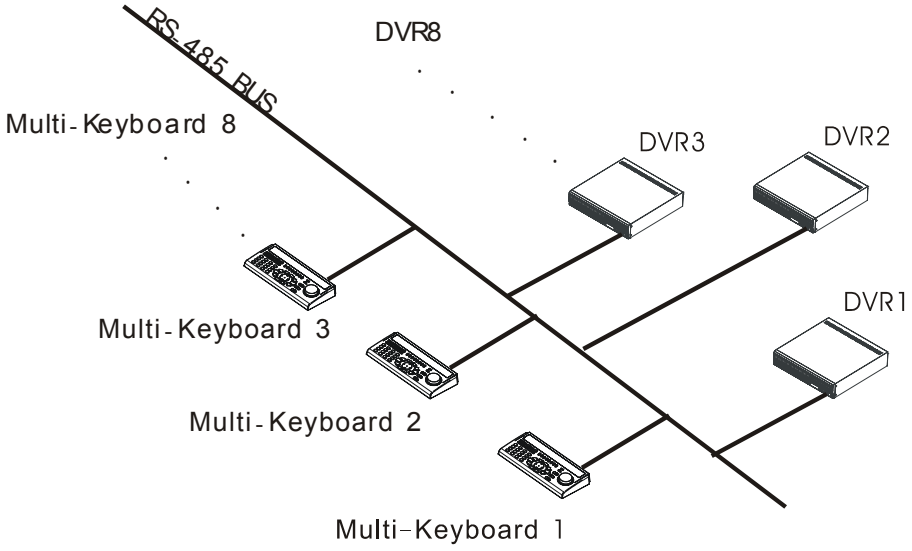
2.3.2 Single Multi-Keyboard with Multiple MDVRs Connection



2.3.3 Multiple Multi-Keyboards with Single MDVR Connection



2.3.4 Multiple Multi-Keyboards and MDVRs Connection



2.3.5 Multi-keyboard with Multiple DVRs ID Setup

While user tries to control multiple DVRs to do different job, user must set up each connected DVRs' different ID in Main Menu first.

To set up DVR's ID for keyboard, simply go to the Main menu path:
Main Manu → Installer Setup → RS-485

Figure 2.3.5: DVR ID Setup

Use to move cursor for selecting the ID section. Press key for 3 seconds and use to set up DVR ID number (0~7). Then, press key for 3 seconds again and press the keyboard ID key (1~8) (the buttons below the LEDs numbers on the keyboard).

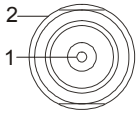
NOTE: The MDVR ID number 0~7 are with corresponding Keyboard ID 1~8. For example, if set DVR ID is 5, then press keyboard ID button number 4.

2.4 Video Output Connection

Video output connection ports all are on the DVR's rear panel.

2.4.1 Connect with CCTV Monitors

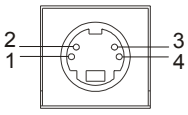
Use standard **"TV Out"** BNC Port on the DVR real panel



1. Video
2. Ground

2.4.2 Connect with TV

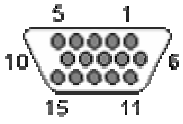
Use standard S-Video Port



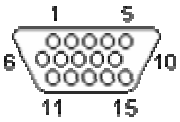
1. C Ground
2. C (Chrominance)
3. Y Luminance + Sync
4. Y Ground

2.4.3 Connect with CRT or LCD Monitors

Use standard VGA Port



(At the DVR)



(At the monitor cable)

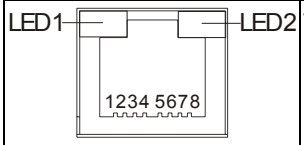
- 15 PIN HIGHDENSITY D-SUB FEMALE at the DVR.
- 15 PIN HIGHDENSITY D-SUB MALE at the monitor cable.

Pin	Name	Dir	Description
1	RED	→	Red Video (75 ohm, 0.7 V p-p)
2	GREEN	→	Green Video (75 ohm, 0.7 V p-p)
3	BLUE	→	Blue Video (75 ohm, 0.7 V p-p)
4	ID2	←	Monitor ID Bit 2
5	GND	—	Ground
6	RGND	—	Red Ground
7	GGND	—	Green Ground
8	BGND	—	Blue Ground
9	KEY	-	Key (No pin)
10	SGND	—	Sync Ground
11	ID0	←	Monitor ID Bit 0
12	ID1 or SDA	←	Monitor ID Bit 1
13	HSYNC or CSYNC	→	Horizontal Sync (or Composite Sync)
14	VSYNC	→	Vertical Sync
15	ID3 or SCL	←	Monitor ID Bit 3

2.5 Network Installation

2.5.1 Connect with DVR

Use RJ-45 port on the DVR's rear panel to connect with network. Network function provides user to remote view the DVR's image on a PC by the NetView application. To install the Network for DVR, please insert the LAN cable into RJ-45 port on the DVR rear panel.

LAN Connector	
	The pin-out of the RJ-45 jack is the same as a standard Ethernet UDP jack. LED1: YELLOW LIGHT Indicates the MESSAGE Transaction. LED2: GREEN LIGHT Indicates the LAN PORT ON LINE.

2.5.2 Setup LAN Configuration in DVR Main Manu

1. Go to the path: Main Manu → Installer Setup → LAN

Figure 2.5.2: LAN Configuration

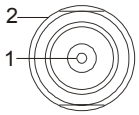
2. Use and Encoder ( ) to set IP, Mask and Gateway values.

Note: The numbers of IP, Mask and Gateway in Figure 2.5.2 is an example. To set LAN configuration, users need to contact their local internet provider or the company network administrator for correct information.

2.6 Cameras Installation

2.6.1 Connect with Cameras

Use **“In”** standard BNC Port on the DVR real panel



1. Video
2. Ground

2.6.2 Setup RS-485 in Main Menu to Control Cameras

1. Go to the path: Main Menu → Installer Setup → RS-485

Figure 2.6.2: RS-485

2. Use to select item. Use to change value.
3. Baud Rate: DVR support 7 kinds of PTZ camera manufacturers protocols, User needs to refer Dome’s manufacturer manual to set Baud Rate
4. ID: The ID panel here is for DVR’s ID.
5. Protocol: select the brand of the PTZ camera.

2.6.3 Setup Camera ID & PTZ Camera Enable in DVR Main Menu

1. Go to the path: Main Menu → Installer Setup → RS-485 → Set Camera RS-485 → Camera #

Figure 2.6.3.1: Set camera ID

2. Use to select items. Use to change values.
3. Set the **Camera ID** as the same as the switch ID of the dome.
4. Set the **Camera 485 Enable** enabled for PTZ camera. Dome icon will be showed on the upper right corner of the screen.

Figure 2.6.3.2: Set Camera 485 Enable

2.6.4 PTZ Camera Control

1. When **Camera 485 Enable** has been set enabled, there will be a dome label on the upper right corner in the full screen mode:

Figure 2.6.4: PTZ Camera Control

2. Use or to control PAN left, PAN right, Tilt up, and Tilt down.

Use to zoom in/out.

2.6.5 Set Preset for PTZ Camera

1. Press SET PRESET to enter **Set Preset** mode.

Figure 2.6.5: Set Preset for PTZ Camera

2. Use 1~16 to set preset or use - + to select preset, then press ENTER to set preset.

NOTE: For Lilin, use the following procedure to set preset point.
Procedure: Recall Goto Preset, set dome at specific location, then Set Preset.

2.6.6 Goto Preset

1. Press GOTO PRESET to enter **Go to Preset** mode.

Figure 2.6.6: Goto Preset

2. Use 1~16 to go to preset or use - and + to select preset, then press ENTER to go to preset.

2.6.7 Setup Camera Adjust in DVR Man Manu

This function is to set batter picture quality for user.

1. Go to the path: Main Menu → Camera → Camera Adjust

Figure 2.6.7: Camera Adjust.

2. To set 4 parameters in Camera Adjust function:

(1) **Brightness**:

Use keys to adjust brightness of a camera.

(2) **Contrast**:

Use keys to adjust contrast of a camera.

(3) **Hue**:

Use keys to adjust hue of a camera.

(4) **Saturation**:

Use keys to adjust saturation of a camera.

2.6.8 Setup Camera Action in DVR Main Manu

This feature is to set the state of cameras.

1. Go to the path: Main Menu → Camera → Camera Action

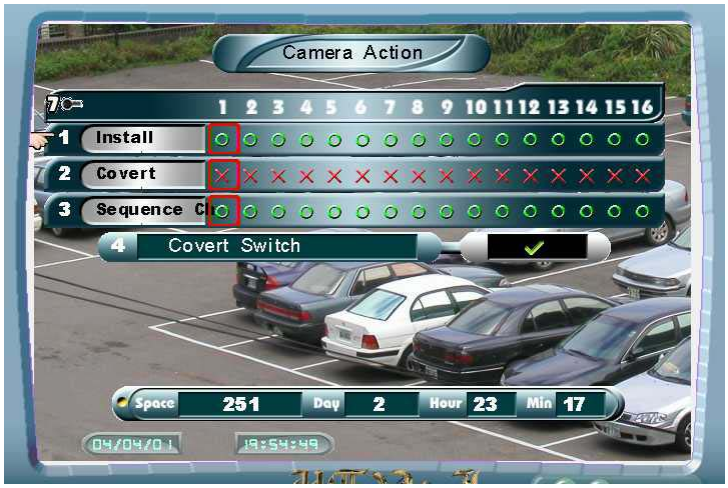


Figure 2.6.8: Camera Action.

2. To set the camera condition:

(1) **Install**:

Use this item to specify if a camera is installed or not installed.

If this item is set for off ( ), meaning the camera is NOT installed. If this item is set for on ( ), meaning the camera is installed.

(2) **Covert**:

This feature removes cameras form all live displays while continuing to record them. The users are unaware that the camera is being recorded. To view playback images of covert cameras need to be authorized. Use this item to specify if a camera is covert. If the camera is covert, user needs to be authorized to see the image of the camera.

NOTE: Covert switch (item 4) must be enabled (✓).

(3) **Sequence Ch**:

Use this item to specify which camera should be displayed

sequentially in the sequencing mode.

(4) **Covert Switch**:

Use this item to disable/enable the function covert (item 2).

: Function covert (item 2) is disabled.

: Function covert (item 2) is enabled.

2.6.9 Setup Camera Title in DVR Main Manu

1. Go to the path: Main Menu → Camera → Set Camera Title → Camera #

Figure 2.6.9: Set Camera Title

2. Use and ENTER keys to edit the title of each camera.

2.6.10 Setup Sequence Time in DVR Main Manu

This function is to set changing timer for sequence display mode.

1. Go to the path: Main Menu → Camera → Sequence Time

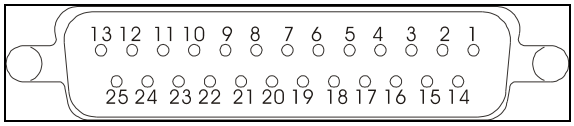
Figure 2.6.10: Sequence Time.

2. Use keys to adjust 1~255 seconds in Sequence Time panel.

2.7 Alarm Setup

2.7.1 Connect with Alarm Devices

Alarm I/O Port is 25-pin D-SUB female type connector on the DVR rear panel.

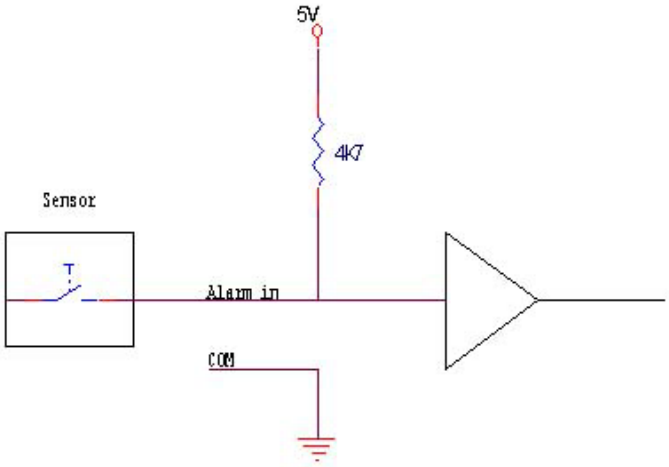


DB 25 PIN NO	Name	FUNCTION	SPECIFICATION
1	ALM_IN1	SENSOR INPUT	SENSOR SINGAL 1
2	ALM_IN3	SENSOR INPUT	SENSOR SINGAL 3
3	ALM_IN5	SENSOR INPUT	SENSOR SINGAL 5
4	ALM_IN7	SENSOR INPUT	SENSOR SINGAL 7
5	ALM_IN9	SENSOR INPUT	SENSOR SINGAL 9
6	ALM_IN11	SENSOR INPUT	SENSOR SINGAL 11
7	ALM_IN13	SENSOR INPUT	SENSOR SINGAL 13
8	ALM_IN15	SENSOR INPUT	SENSOR SINGAL 15
9	GND_EARTH	SENSOR COMMON	GND EARTH pin
10	ALM_OUT1	ALM OUTPUT	ALM OUTPUT 1
11	ALM_OUT3	ALM OUTPUT	ALM OUTPUT 3
12	ALMNC1	Relay	Relay NC pin
13	ALMNO1	Relay	Relay NO pin
14	ALM_IN2	SENSOR INPUT	SENSOR SINGAL 2
15	ALM_IN4	SENSOR INPUT	SENSOR SINGAL 4
16	ALM_IN6	SENSOR INPUT	SENSOR SINGAL 6
17	ALM_IN8	SENSOR INPUT	SENSOR SINGAL 8
18	ALM_IN10	SENSOR INPUT	SENSOR SINGAL 10
19	ALM_IN12	SENSOR INPUT	SENSOR SINGAL 12
20	ALM_IN14	SENSOR INPUT	SENSOR SINGAL 14
21	ALM_IN16	SENSOR INPUT	SENSOR SINGAL 16
22	GND_EARTH	SENSOR COMMON	GND EARTH pin
23	ALM_OUT2	ALM OUTPUT	ALM OUTPUT 2
24	ALM_OUT4	ALM OUTPUT	ALM OUTPUT 4
25	ALMCOM1	Relay	Relay common pin

2.7.2 Connecting to DVR

Connect alarm devices with DVR via 25-pin D-SUB port

1. Alarm figure
2. 3 sec wave figure



2.7.3 Setup Respondent Cameras for Alarm in DVR Main Menu

1. Go to the path: Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm In Even.

Figure 2.7.3: Alarm In Even

2. Using keys on keyboard to select the AlarmIn number and the CHANNEL numbers then press the ENTER

Key to setup.

3. The symbol means camera has been set to response.

Example in Figure 2.7.3:

(1) When AlarmIn 01 is received signal, camera 1, 2, 8, 9 would response.
(2) When AlarmIn 02 is received signal, camera 3 and 7 would response.
(3) When AlarmIn 03 is received signal, camera 4 and 6 would response.
(4) When AlarmIn 04 is received signal, camera 5 would response.

2.7.4 Setup Alarm Out Enable in DVR Main Menu

1. Go to the path: Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm Out Enable.

Figure 2.7.4: Alarm Out Enable

2. Using keys on keyboard to select Relay, AlarmOut number and CHANNEL numbers, then press

Key to setup.

3. Example in Figure 7.2.3:

(1) When channel 1 is motion detected or alarm in, relay and alarm-out 1 are triggered.

(2) When channel 2 is motion detected or alarm in, relay and alarm-out 2 are triggered.

(3) When channel 3 is motion detected or alarm in, relay and alarm-out 3 are triggered.

(4) When channel 4 is motion detected or alarm in, relay and alarm-out 4 are

triggered.

2.7.5 Setup Alarm In Type in DVR Main Menu

1. Go to the path: Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm In Type

Alarm In Type
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 Alarm In Ty NC NO OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF
2 Alarm Delay 5 10 15 0 0 0 0 0 0 0 0 0 0 0 0 0
Space 251 Day 8 Hour 23 Min 3
04/06/18
19:06:16

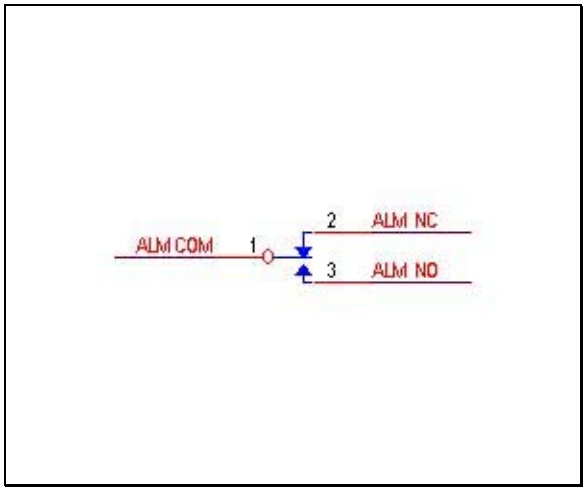
Figure 2.7.5: Alarm In Type

2. To set parameter in Alarm In Type:

(1) **Alarm In Type** defines the types of alarm-in.

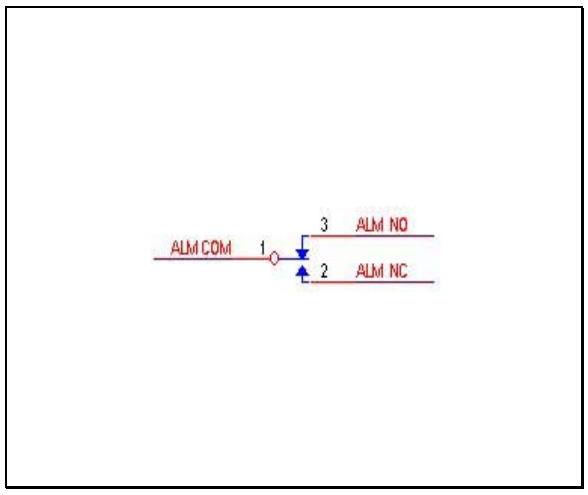
: Off

: Normal Close



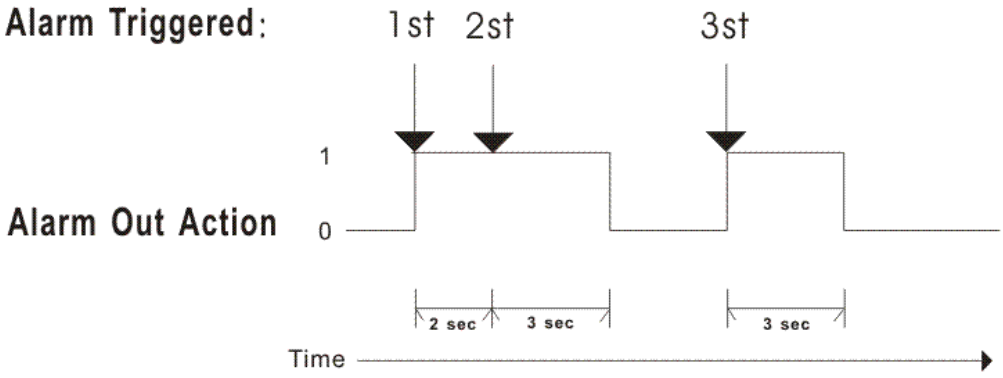
Normal Close Relay Output

: Normal Open



Normal Open Relay Output

(2) **Alarm Delay** defines the delay time of alarm-in when event happens.



Note: If alarm is triggered, DVR will continue sending Alarm out Action signal for 3 sec. Be ware of the DVR alarm signal timekeeper will be always started at the last time alarm triggered.

2.7.6 Setup Alarm Response in DVR Main Menu

1. Go to the path: Main Menu → Alarm/Motion Setup → Alarm Response

Figure 2.7.6: Alarm Response

2. Use “+” or “–“ keys on keyboard to set the Internal Buzzer, Alarm Full Screen, Any Key To Stop, Response Duration and Display Event Label when receive the alarm.

(1) **Internal Buzzer**:

This item lets you enable/disable internal buzzer.

✓ : Enable. The built-in buzzer will beep when an alarm is activated.

✗ : Disable. The built-in buzzer won’t beep when an alarm is activated.

(2) **Alarm List**:

Please refer to section 2.7.8.

(3) **Alarm Full Screen**:

This item lets you specify the live display when alarm is received. And there is an alarm label for the camera.

✓ : Enable. Switch to full screen display when alarm is received.

✗ : Disable. There is no any information on live display.

(4) **Response Duration**:

This item lets you specify **1-255 (sec)** response duration of alarm response. Alarm display will display for specified seconds.

(5) **Any Key to Stop**:

This item lets you enable/disable any key to stop alarm response.

✓ : Enable, Press any key to stop alarm display.

✗ : Disable, Press

to stop alarm response.

(6) **Display Event Label**:

This item lets you enable/disable display event label when event is triggered.

✓ : Enable. Display event label

✗ : Disable. Do not display event label.

2.7.8 Setup Alarm List in DVR Main Menu

1. Go to the path: Main Menu → Alarm/Motion Setup → Alarm Response → Alarm List

Figure 2.7.8: Alarm List

2. Use this menu to determine whether an event should be added in event list (Please refer to section 4.6 List Screen).

(1) Alarm In List:
- ✓ : Enable. Add alarm-in event in event list.
- ✗ : Disable. Don't add alarm-in event in event list.

(2) Motion List:
- ✓ : Enable. Add motion event in event list.
- ✗ : Disable. Don't add motion event in event list.

(3) Video Lost List
- ✓ : Enable. Add video lost event in event list.
- ✗ : Disable. Don't add video lost event in event list.

(4) Freeze List
- ✓ : Enable. Add freeze event in event list.
- ✗ : Disable. Don't add freeze event in event list.

(5) Clear All Lists: This item let you clear all lists in event list.

2.7.9 Setup Motion in DVR Main Menu

1. Go to path: Main Menu → Alarm/Motion Setup → Motion→ Camera #

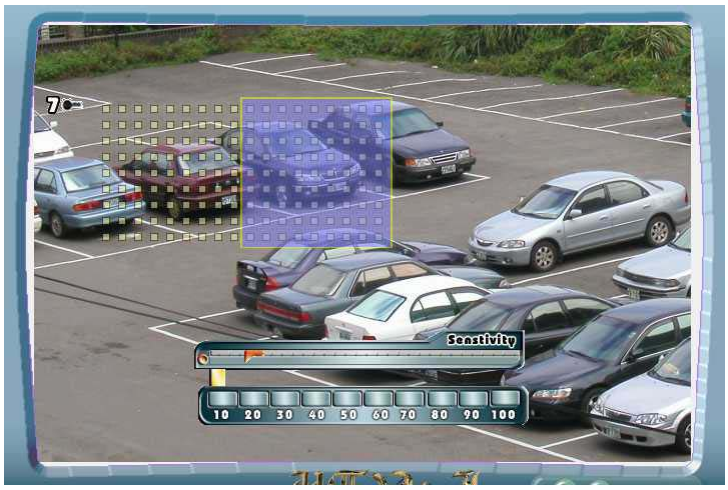


Figure 2.7.9 Motion Detection

2. Motion Detection:

(1) Use this screen to enable/disable motion detection. There are 1350 motion zones for each camera, user can enable or disable each zone individually. If there are activities or intrusions on motion zones, the DVR enables motion recording.

(2) Use to change the type of cursor. Big cursor lets you enable/disable many zones, and small cursor lets you enable/disable less zones. Navigate the screen with the zone cursor using the buttons. By pressing to enable/disable motion zones. Zones with red marks enable motion detection. Zones without red marks disable motion detection.

(3) There is a sensitivity scope to adjust the motion detection sensitivity for the screen. The sensitivity scope is the bar located near the bottom of the screen. The red mark indicates the sensitivity of motion alarm. Use Encoder ( ) to change the level of sensitivity (0~100). The yellow cursor indicates the activities on motion zones. If motion activity

reaches the level of sensitivity, motion recording will be enabled.

2.7.10 Setup Alarm/Motion Setup in DVR Main Menu

1. Go to the path: Main Menu → Alarm/Motion Setup

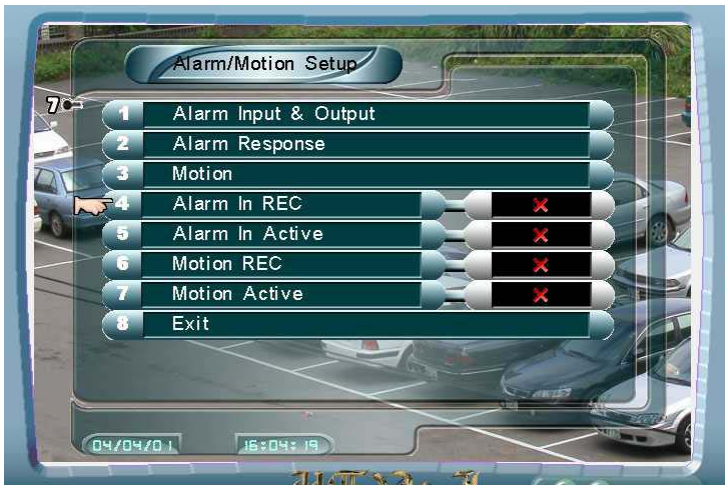


Figure 2.7.10: Alarm/Motion Setup

2. To set Alarm/motion Setup parameters:

- **Alarm In REC**:
  ✓ : Enable. Enable all alarm-in recording.
  ✗ : Disable. Disable all alarm-in recording.

- **Alarm In Active**:
  ✓ : Enable. Enable all alarm-in responses except alarm-in recording.
  ✗ : Disable. Disable all alarm-in response except alarm-in recording.

- **Motion REC**:
  ✓ : Enable. Enable all motion recording.
  ✗ : Disable. Disable all motion recording.

- **Motion Active**:
  ✓ : Enable. Enable all motion responses except motion recording.
  ✗ : Disable. Disable all motion response except motion recording.

Chapter 3 Basic Operations

3.1 Single Screen

Description: The DVR displays images for one camera in full screen

Figure 3.1: Single Screen

Function Keys:

1~16 : Select cameras.

ENTER : Zoom-in 2x2.

F2 : Hides OSD

F1 : On-line Help

3.2 Single Screen with Zooming

Description: In single screen mode, press

to do 2x2 digital zooming.

Figure 3.2: Single Screen with Zooming

Function Keys:

: Navigate the image.

: Escape

: Hides OSD

: On-line help

3.3 Display Screen

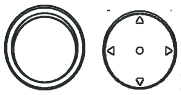
1. Set Display Mode:

Description: Double press

to enter Display Screen Mode. The DVR provide 10 types of split modes.

Figure 3.3.1: 10 Display Screen Models

Function Keys:


: Navigate split mode.

: Sets split mode

: Exit.

: Hides OSD

: On-line help

2. Quick Searching in Multi-Screen:

Description: In multi-screen, press ENTER to do quick searching.

Figure 3.3.2: Quick Search in Multi-Screen

Function Keys:

: Quick searching.

ESC : Escape.

F1 : On-line help

3. Set specific camera in Multi-Screen

Description:

In multi-screen, user can set specific camera for specific split window by pressing SET. When you enter this mode, there is a cursor appeared. By pressing , user can navigate the split windows. Then push 1~16 to change the camera in the split window.

Figure 3.3.3: Set Camera in Multi-Screen

Function Keys:

: Navigate the split windows.

1~16 : Set camera

ESC : Exit.

F1 : On-line help

3.4 Sequencing Screen

Description:

When single screen, double press SEQ to enter sequencing screen select mode. Sequencing Screen has 7 sequencing modes. The red flag means sequencing direction. You can specify dwell time in main menu (section 5.2.4).

You also can view the specific camera by pressing SET while in sequencing screen mode.

Figure 3.4: Sequencing Screen.

Function Keys:

: Navigate sequencing mode.

ENTER : Sets sequencing mode

ESC : Exit.

F2 : Hides OSD

F1 : On-line help

3.5 Main Menu Screen

Description:

Press

to enter main menu. Please refer to chapter 5 for details.

Figure 3.5: Main Menu Screen

Function Keys:

: Selects item.

: Enter.

: Exit.

: Hides OSD

: On-line help

3.6 List Screen

Description:

Press LIST to enter list screen mode. DVR will pop a password dialog.

User needs to be authorized to enter list screen. List screen provides quick searching for playback. The List records the latest 1023 events. User can set filters (channel and event type) to find specific events. There are 102 filter modes for searching events. There are eight event filters, which are ALL, Alarms, Motion, Freeze, Loss, Mark, P loss, and CF.

ALL: All event types are displayed.
Alarms: Alarm in event
Motion: Motion event
Freeze: Freeze event
Loss: Video loss
Mark: In playback mode, press freeze to add a Mark.
P Loss: Power on/off
CF: Compact flash.

All 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
ALL Alarm Motion Freeze Loss Mark P loss CF
NO CH TYPE DATE/TIME SIZE
ID
Password
ENTER
ESC
7 6 Alarm 03/12/04 13:25:04 HDD2
8 5 Alarm 03/12/04 13:25:04 HDD2
04/03/30
Figure 3.6.1: List Screen.

Function Keys:

: Sets filters.

: Navigate event lists.

: Enter playback mode.

: Delete list.

: Exit.

: Hides OSD

: On-line help

Example:

1. Select camera

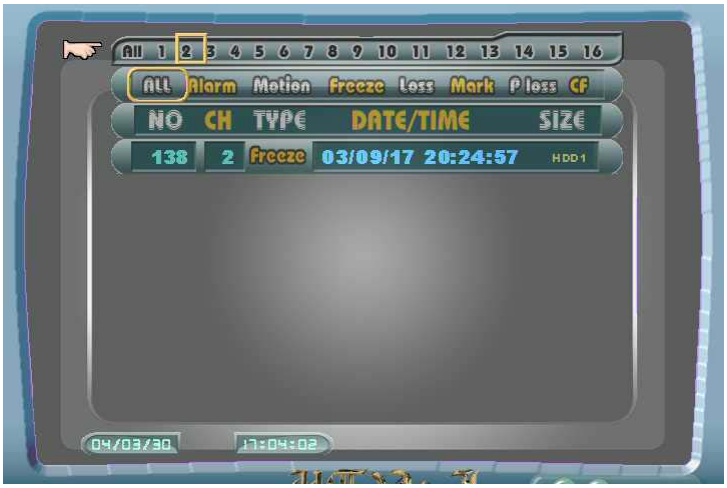

All 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
ALL Alarm Motion Freeze Loss Mark P loss CF
NO CH TYPE DATE/TIME SIZE
138 2 Freeze 03/09/17 20:24:57 HDD1
04/03/30
17:04:02

Figure 3.6.2: Select Camera

Use to select camera.

2. Select event filter

Figure: 3.6.3: Select Event Filter

Use to select event filter.

3. Select event list

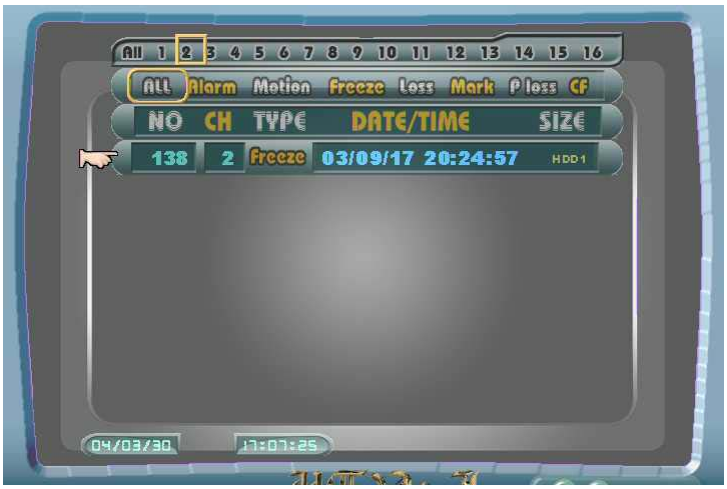

All 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
ALL Alarm Motion Freeze Loss Mark P loss CF
NO CH TYPE DATE/TIME SIZE
138 2 Freeze 03/09/17 20:24:57 HDD1
04/03/30

Figure 3.6.4: Select Event List

Use or to select event

4. Playback/Delete event

Use to playback.

Use to delete event.

3.7 Help Screen

Description:

Press F1 (F1) to enter on-line help for current operation.

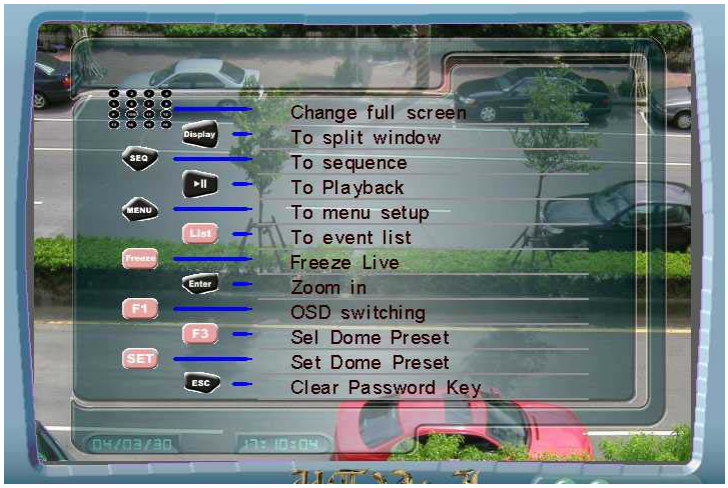


Figure 3.7: Help Screen.

Function Keys:

ESC : Escape.

Press any key to Exit on-line help.

3.8 Playback Screen

Description:

Press to enter playback mode. User can set playback start time. When user navigates time, the DVR plays the recorded images. The smallest scale of time is frame. The DVR lets you play images frame-by-frame by using .

Figure 3.8: Playback Screen.

Function Keys:

: Selects time scale.

: Set playback time.

: Plays/Pause

: Fast forward.

: Rewind

: Escape

: Hides OSD

: On-line help

3.9 Freeze

Press FREEZE button to freeze images. If event list is enabled, freeze event will be added in event list. When images are frozen, the button FREEZE will show on left upon side of the screen. To Exit freeze mode, press FREEZE again.

Figure 3.9: Freeze

3.10 Keyboard Lock

Press LOCK button for 3 seconds to lock the keyboard.

To exit lock mode, press LOCK for 3 seconds.

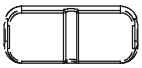
3.11 PROG

Press PROG button on the keyboard to broadcast all connected DVRs. The PROG key is design to set up DVRs' controlling ID of the keyboard when a keyboard connects with multiple DVRs. To know how to set up DVR ID, please refer to chapter 2.3.5 on page 22.

3.12 ZOOM, IRIS, FOCUS

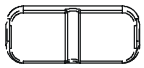
These 3 pairs buttons are used to control PTZ/Doom cameras.

- ZOOM +



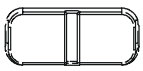
“-“for zoom out, **“+”** for room in

- IRIS +



“-“for lower brightness, “+” higher brightness

- FOCUS +



“-“for blur, “+” sharp

Note: These 3 pairs buttons only work when doom has been set enabled and doom icon appears on the up-right screen. For detail about setting PTZ/Doom cameras, please refer to 2.6.3 on page 60.

Chapter 4 Menu Setup

4.1 Main Menu Overview

Figure 4.1.1: Main Menu.

The Main menu contains the majority of programmable options for the DVR. Each item in the Main menu is described in this chapter. Main menu items are appeared in the same order they appear in the menu.

Figure 4.1.2: Password dialog.

If the item appears with a closed lock ( ), it means users need to be authorized to enter the item. When you press enter into the item with closed lock, the DVR pops a password dialog. User enters the ID and password to open the lock ( ). The DVR divides all accounts into 7 levels. Only the highest-level (level 7) ID can enter all locked items. If the account level is not

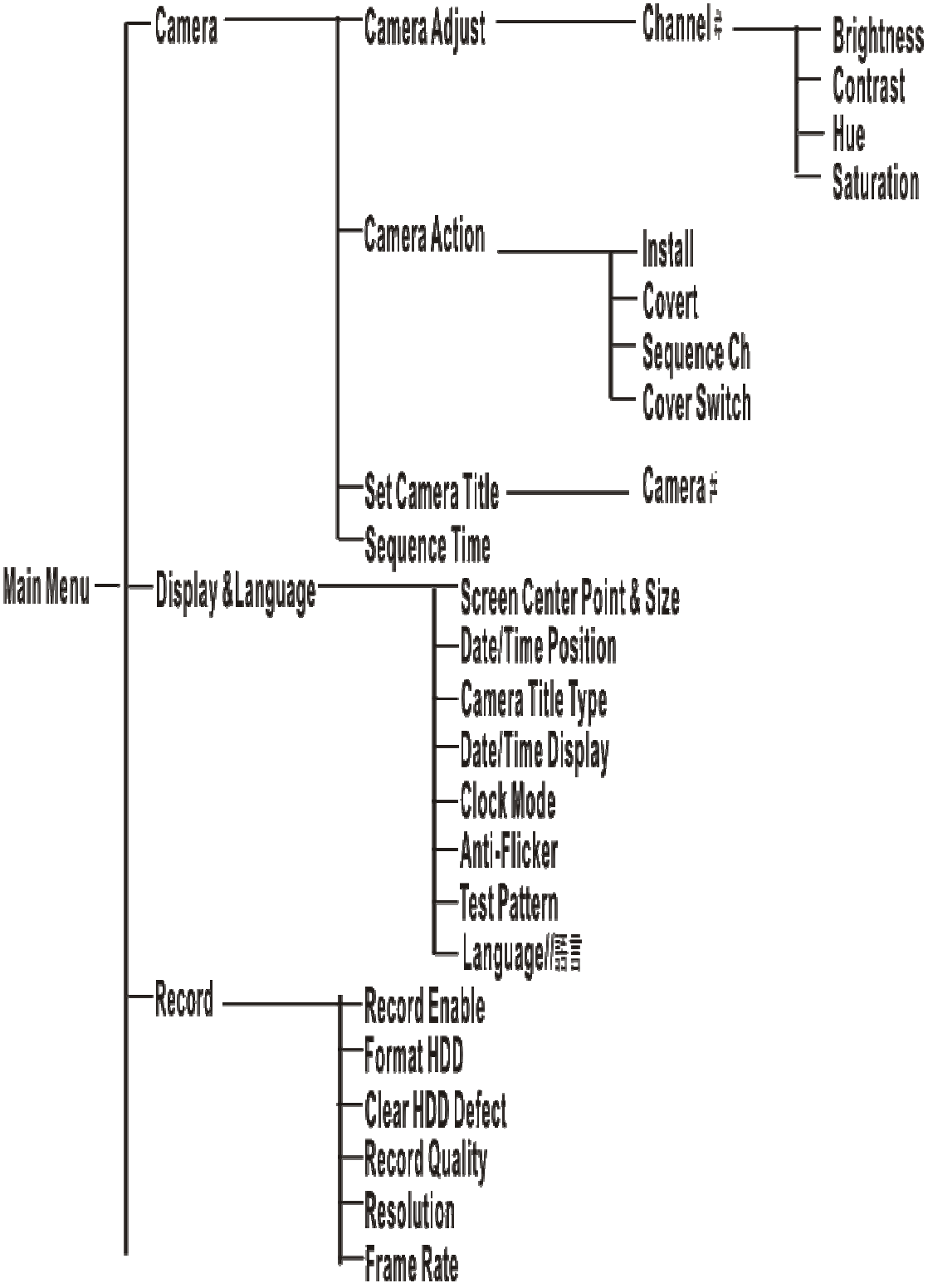
high enough, the closed lock will not be opened. Please refer to section 4.7.4 Password Management.

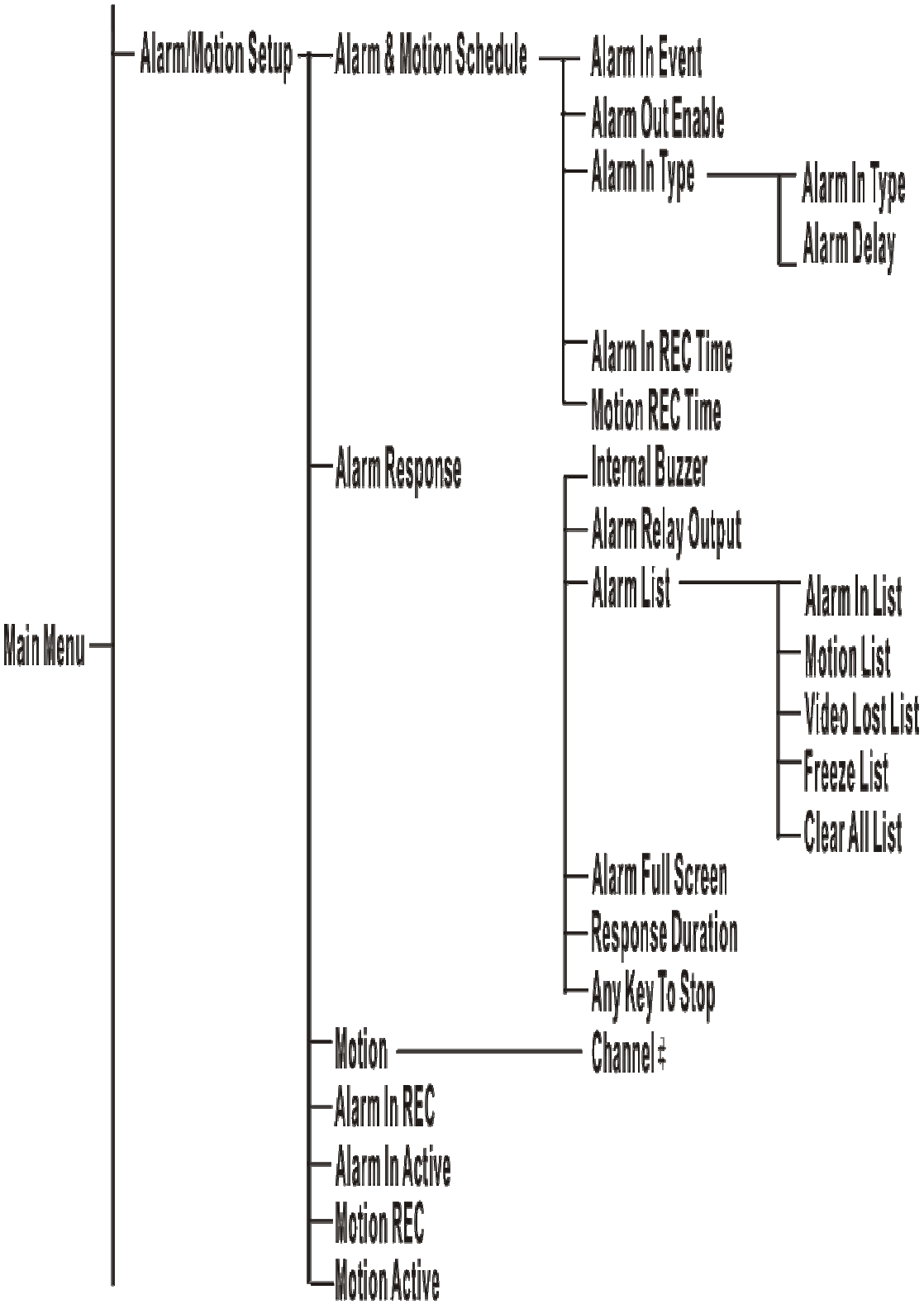
Any state, user can press F1 (F1) to open on-line help for current operation.

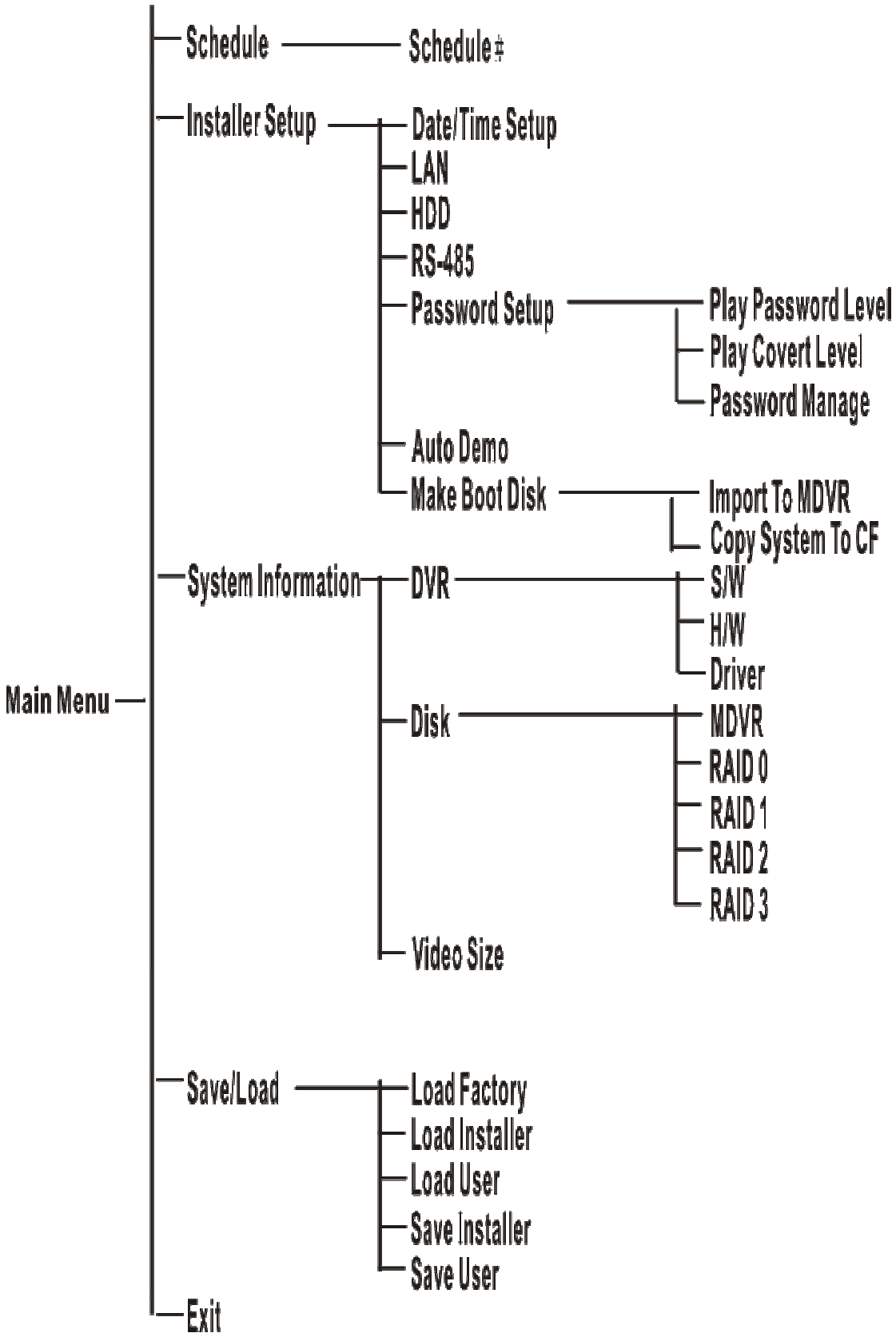
NOTE 1: The factory default ID: 1, password: 1234.
NOTE 2: All changed configurations need to be saved before power-off. Please refer to section 5.9 Save/Load.

4.1.1 Menu Tree

Menu tree provides user an overview of the main menu. This menu tree is also a quick reference for Main Menu.




Main Menu
Alarm/Motion Setup
Alarm & Motion Schedule
Alarm In Event
Alarm Out Enable
Alarm In Type
Alarm In Type
Alarm Delay
Alarm In REC Time
Motion REC Time
Alarm Response
Internal Buzzer
Alarm Relay Output
Alarm List
Alarm In List
Motion List
Video Lost List
Freeze List
Clear All List
Alarm Full Screen
Response Duration
Any Key To Stop
Motion
Channel
Alarm In REC
Alarm In Active
Motion REC
Motion Active


Main Menu
Schedule
Schedule
Installer Setup
Date/Time Setup
LAN
HDD
RS-485
Password Setup
Play Password Level
Play Covert Level
Password Manage
Auto Demo
Make Boot Disk
Import To MDVR
Copy System To CF
System Information
DVR
S/W
H/W
Driver
Disk
MDVR
RAID 0
RAID 1
RAID 2
RAID 3
Video Size
Save/Load
Load Factory
Load Installer
Load User
Save Installer
Save User
Exit

4.2 Camera

4.2.1 Camera Adjust

Main Menu → Camera → Camera Adjust → Channel *N*

Figure 4.2.1: Camera Adjust.

1. Brightness
   Use this item to adjust brightness of a camera.

2. Contrast
   Use this item to adjust contrast of a camera.

3. Hue
   Use this item to adjust hue of a camera.

4. Saturation
   Use this item to adjust saturation of a camera.

4.2.2 Camera Action

Main Menu → Camera → Camera Action

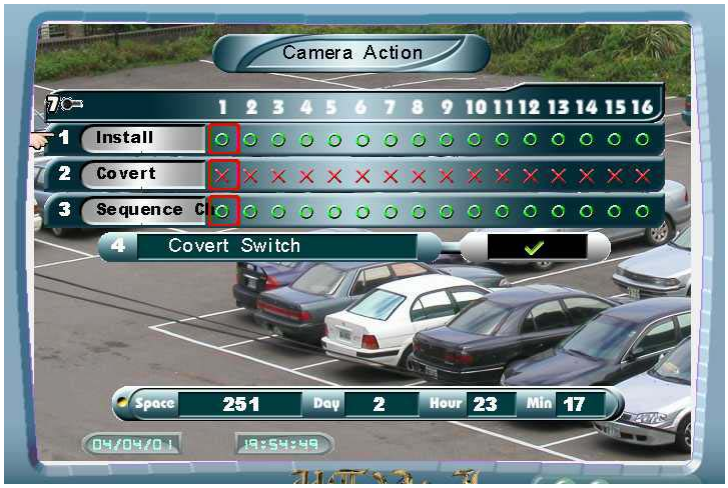


Figure 4.2.2: Camera Action

(5) **Install:**

Use this item to specify if a camera is installed or not installed.

If this item is set for off ( ), the camera is NOT installed.

If this item is set for on ( ), the camera is installed.

: Camera is installed.

: Camera is not installed.

(6) **Covert:**

This feature removes cameras form all live displays while continuing to record them. The users are unaware that the camera is being recorded. To view playback images of covert cameras, user needs to be authorized.

: Camera is covert.

: Camera is not covert.

NOTE: Covert switch (item 4) must be enabled (✓).

(7) **Sequence Ch:**

Use this item to specify which camera should be displayed sequentially in sequencing mode.

O: Camera is sequenced.

X: Camera is not sequenced.

(8) **Covert Switch:**

Use this item to disable/enable function covert (item 2).

✗ : Function covert (item 2) is disabled.
✓ : Function covert (item 2) is enabled.

4.2.3 Camera Title

Main Menu → Camera → Set Camera Title → Camera #

Figure 4.2.3: Set Camera Title

1. Set Camera Title

   Use this item to edit the title of each camera.

4.2.4 Camera Sequence Time

Main Menu → Camera → Sequence Time

Figure 4.2.4: Sequence Time.

1. Sequence Time

   The sequence time is the amount of time each camera is displayed on-screen, before advancing to the next camera in sequencing mode.

   1~255 (sec): Range of sequence time.

4.3 Display and Language

4.3.1 Screen Center Point & Size

Main Menu → Display → Screen Center Point & Size

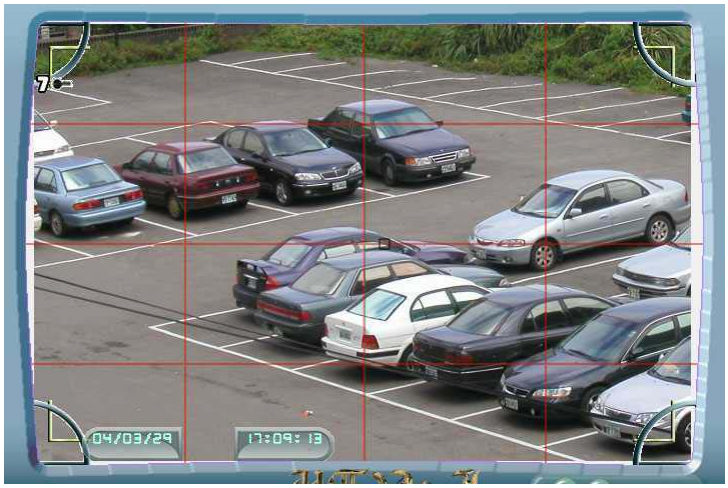


Figure 4.3.1: Screen Center Point & Size.

1. Screen Center Point & Size:
   This item lets you change the position of screen center point and adjust the size of screen. Use to change the position of screen center. Use and to adjust the size of screen.

4.3.2 Date/Time Position

Main Menu → Display → Date/Time Position

Figure 4.3.2: Screen Center Point & Size.

1. Data/Time Position

   This item lets you change the position of live date, live time, playback date, playback time and status. Live date, live time, playback date, playback time and status can be put in any position of the screen. Use and to navigate the screen. Use to change the position of selected item.

4.3.3 Camera Title Type

Main Menu → Display & Language → Camera Title Type

Figure 4.3.3: Camera Title Type.

1. Camera Title Type

   This item lets you change the type of camera title on screen.

: Type 1

: Type 2

: Type 3

: Type 4

4.3.4 Date/Time Display

Main Menu → Display & Language → Date/Time Display

Figure 4.3.4 Date/Time Display

1. Date/Time Display

   This item lets you determine the date/time will be on screen. This unit only provides 24 hours time format, user can't change the time format.

: Date and Time.

: Date.

: Time.

: No Display.

4.3.5 Clock Mode

Main Menu → Display & Language → Clock Mode

Figure 4.3.5: Clock Mode.

1. Clock Mode

   This item lets you change the clock type on screen.

: Type 1.

: Type 2.

4.3.6 Anti-Flicker

Main Menu → Display & Language → Anti-Flicker

Figure 4.3.6: Anti-Flicker.

1. Anti-Flicker

   This item lets you enable/disable anti-flicker. If the sharp image is flickering, user can enable anti-flicker.

   Auto **:** Automation.

   ✓ : Flicker free.

   ✗ : No flicker free.

4.3.7 Test Pattern

Main Menu → Display & Language → Test Pattern

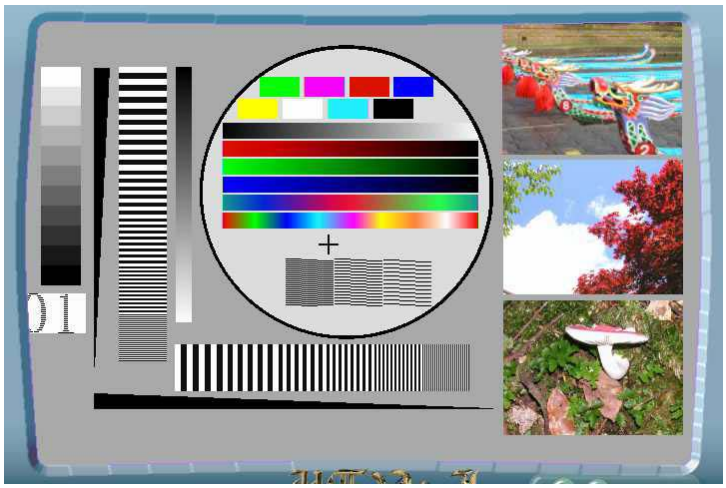


Figure 4.3.7: Test Pattern.

1. Test Pattern

   User can use test pattern to test the image quality.

4.3.8 Language

Main Menu → Display & Language → Language

Figure 4.3.8: Language.

1. Language
   The DVR supports multi-language. Factory provides English and one national language.

   English: English version.
   中文**(繁)**: Chinese traditional version.
   Espanol: Spanish version.
   Russian: Russian version
   Italiano: Italian version
   中文**(簡):** Chinese simplified version
   日本語**:** Japanese version

4.4 Record

4.4.1 Record Setup

Main Menu → Record

Figure 4.4.1: Recording Parameters.

1. Record Enable:

Use this item to specify recording enable. When this item is set for Off, all recording are disable.

: Not recording.

: Recording.

2. Format HDD:

Use this item to format hard disk.

WARNNING: Format hard disk will cause recording data lost.

3. Clear HDD Defect:

Use this item to reuse defect HDD clusters.

4. Record Quality:

Use this item to specify the image quality.

: High quality, less recording time.

: Standard quality, standard recording time.

: Middle quality, middle recording time.

- : Low quality, long recording time.

5. Resolution
   Use this item to specify the image resolution.

   NTSC:
   720x480: 720x480 screen.
   640x448: 656x448 screen.
   512x384: 512x384 screen.
   720x240: 720x240 screen.
   640x224: 640x224 screen.
   512x192: 512x192 screen.
   352x240: 352x240 screen.

   PAL:
   720x576: 720x576 screen.
   656x528: 656x528 screen.
   512x448: 512x448 screen.
   720x288: 720x288 screen.
   656x256: 656x256 screen.
   512x224: 512x224 screen.
   352x288: 352x288 screen.

4.4.2 Frame Rate

Main Menu → Record → Frame Rate

Figure 4.4.2: Recording frame rate.

1. Frame Rate

   Use this table to specify the frame rate and schedule. We need to set Alarm Rate, Alarm Schedule, Motion Rate, Motion Schedule, Normal Rate, and Normal Schedule for each camera.

   (1) **Alarm-driven recording:** Alarm schedule is active and alarm-in is triggered.

   (2) **Motion-driven recording:** Motion schedule is active and motion is detected.

   (3) **Alarm Rate** is the frame rate for alarm-driven recording.

   (4) **Alarm Schedule** is one of the 16 sharable recording schedules (refer to section 5.6) for alarm-driven recording.

   (5) **Motion Rate** is the frame rate for motion-driven recording.

   (6) **Motion Schedule** is one of the 16 sharable recording schedules for motion-driven recording.

   (7) **Normal Rate** is the frame rate for first normal recording.

   (8) **Normal Schedule** is one of the 16 sharable recording schedules for first normal recording.

   For each camera:

   - If alarm-driven recording is active, the recording frame rate is Alarm Rate.
   - If motion-driven recording is active and alarm-driven is not active, the recording frame rate is Motion Rate.

- If no event happens and schedule is active, the recording frame rate is Normal Rate.

Note: The highest priority is Alarm Schedule, then Motion Schedule, then Normal Schedule. The recording frame rate is the frame rate of active recording frame rate with highest priority.

2. Force Compress:
   Force to compress image in I frames. Force compress will improve the image quality, but the storage space will be consumed quickly.

Example:

Schedule 1: Full time recording, everyday

Frame Rate
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 Alarm Sche
2 Motion Sche
3 Normal Prio
4 Normal Sche
5 Force Compress
Space 251 Day 2 Hour 7 Min 0
04/05/18
13:34:47

Explanation: Camera 1
Alarm Rate is 15.
Alarm Schedule is sharable schedule 1.

Motion Rate is 10.
Motion Schedule is sharable schedule 1.
Normal Rate is 15.
Normal Schedule is sharable schedule 1.

Camera 1 uses schedule 1 as alarm-driven recording schedule, motion-driven recording schedule, and normal schedule.

00:00~24:00: If no event happens, the recording frame rate is 15 (Normal Rate).

If alarm-in is triggered, the recording frame rate is 15 (Alarm Rate).

If motion is detected, the recording frame rate is 10 (Motion Rate).

If alarm and motion are triggered together, the recording frame rate is 15 (Alarm Rate).

4.5 Alarm/Motion Setup

4.5.1 Alarm In Event

Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm In Event

Figure 4.5.1: Alarm In Event.

1. Alarm-In Event

   This table determines how many cameras should make response to specific alarm when alarm is received.

   : Make response.
   Blank: No response.

   Example (Fig 4.5.1):

   (1) When alarm-in 1 is received, camera 2, 3, 4, 6, 7, 8 should make response to alarm.

   (2) When alarm-in 1, 2, 3, 4 are received, camera 8 should make response to alarm.

4.5.2 Alarm Out Enable

Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm Out Enable

Figure 4.5.2: Alarm Out Enable.

1. Alarm Out Enable
   Use this table to specify which alarm out or relay should be triggered. When channel is alarm in or motion, alarm out will be sent.

   : Output enable.
   Blank: Output disable.

   Example (Fig 4.5.2):

   (1) When channel 1 is motion detected or alarm in, relay and alarm-out 1 are triggered.

   (2) When channel 2 is motion detected or alarm in, relay and alarm-out 2 are triggered.

   (3) When channel 3 is motion detected or alarm in, relay and alarm-out 3 are triggered.

   (4) When channel 4 is motion detected or alarm in, relay and alarm-out 4 are

triggered.

4.5.3 Alarm In Type

Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm In Type

Figure 4.5.3: Alarm In Type.

1. Alarm-In Type
   Use table to specify alarm-in type. **Alarm In Type** defines the type of alarm-in.

   : Off.

   : Normal Close.

   : Normal Open.

2. Alarm Delay
   Use table to specify alarm-in delay time. **Alarm Delay** defines the delay time of alarm-in when event happens.

4.5.4 Alarm Response

Main Menu → Alarm/Motion Setup → Alarm Response

Figure 4.5.4: Alarm Response.

1. Internal Buzzer

This item lets you enable/disable internal buzzer.

✓ : Enable. The built-in buzzer will beep when an alarm is activated.
✗ : Disable. The built-in buzzer won't beep when an alarm is activated.

2. Alarm List

Please refer to section 4.5.5.

3. Alarm Full Screen

This item lets you specify the live display when alarm is received. And there is an alarm label for the camera.

✓ : Enable. Switch to full screen display when alarm is received.
✗ : Disable. There is no any information on live display.

4. Response Duration

This item lets you specify response duration of alarm response.

1-255 (sec): Response duration (seconds). Alarm display will display for specified seconds.

5. Any Key to Stop

This item lets you enable/disable any key to stop alarm response.

✓ : Enable. Press any key to stop alarm display.

✗ : Disable. Press ESC to stop alarm response.

6. Display Event Label

This item lets you enable/disable display event label when event is triggered.

✓ : Enable. Display event label

✗ : Disable. Do not display event label.

4.5.5 Alarm List

Main Menu → Alarm/Motion Setup → Alarm Response → Alarm List

Figure 4.5.5: Alarm List.

Use this menu to determine whether an event should be added in event list (Please refer to section 4.6 List Screen).

1. Alarm In List
   - ✓ : Enable. Add alarm-in event in event list.
   - ✗ : Disable. Don't add alarm-in event in event list.

2. Motion List
   - ✓ : Enable. Add motion event in event list.
   - ✗ : Disable. Don't add motion event in event list.

3. Video Lost List
   - ✓ : Enable. Add video lost event in event list.
   - ✗ : Disable. Don't add video lost event in event list.

4. Freeze List
   - ✓ : Enable. Add freeze event in event list.
   - ✗ : Disable. Don't add freeze event in event list.

5. Clear All List
   This item let you clear all lists in event list.

4.5.6 Motion Setup

Main Menu → Alarm/Motion Setup → Motion → Channel #

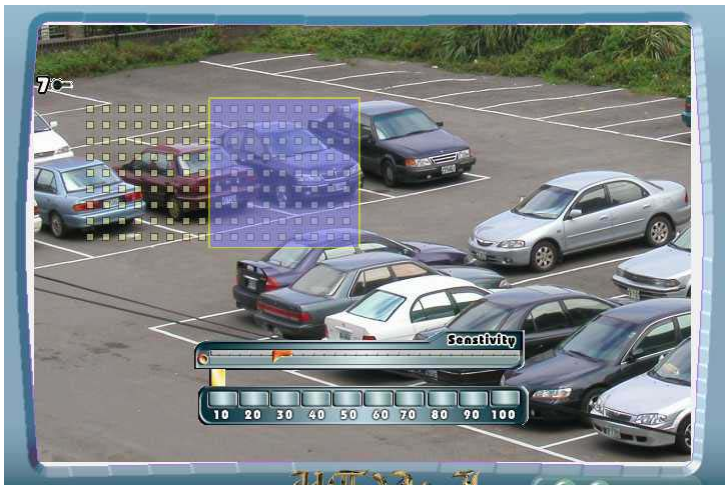


Figure 4.5.6: Motion Detection.

1. Motion Detection:

Use this screen to enable/disable motion detection. There are 1350 motion zones for each camera, user can enable or disable each zone individually. If there are activities or intrusions on motion zones, the DVR enables motion recording.

Use - + to change the type of cursor. Big cursor lets you enable/disable many zones, and small cursor lets you enable/disable less zones. Navigate the screen with the zone cursor using the buttons. By pressing ENTER to enable/disable motion zones. Zones with red marks enable motion detection. Zones without red marks disable motion detection.

There is a sensitivity scope to adjust the motion detection sensitivity for the screen. The sensitivity scope is the bar located near the bottom of the screen. The red mark indicates the sensitivity of motion alarm. Use to change the level of sensitivity (0~100). The yellow cursor indicates the activities on motion zones. If motion activity reaches the level of sensitivity,

motion recording will be enabled.

4.5.7 Alarm/Motion Enables

Main Menu → Alarm/Motion Setup

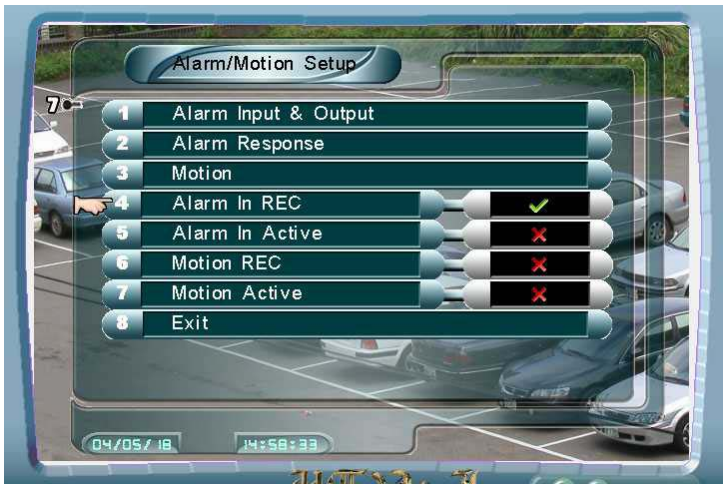


Figure 4.5.7: Alarm/Motion Setup.

1. Alarm In REC
   - ✓ : Enable. Enable all alarm-in recording.
   - ✗ : Disable. Disable all alarm-in recording.

2. Alarm In Active
   - ✓ : Enable. Enable all alarm-in responses except alarm-in recording.
   - ✗ : Disable. Disable all alarm-in response except alarm-in recording.

3. Motion REC
   - ✓ : Enable. Enable all motion recording.
   - ✗ : Disable. Disable all motion recording.

4. Motion Active
   - ✓ : Enable. Enable all motion responses except motion recording.
   - ✗ : Disable. Disable all motion response except motion recording.

4.6 Schedule

Main Menu → Schedule → Schedule #

Figure 4.6: Schedule.

1. Recording Schedule

   This DVR provides 16 programmable recording schedules. Users can specify 16 kinds of schedules. These schedules are sharable, not belong to specific camera. Every camera can use one of these schedules as normal recording schedule, alarm recording schedule, or motion recording schedule.

   The schedule is for one week. The smallest unit is half hour. Use

to change the type of cursor. Big cursor lets you enable/disable many zones, and small cursor lets you enable/disable less zones. Move the position of cursor to specific zones by , and then push

to enable/disable recording. Zones with red mark enable recording. Zones without red mark disable recording.

Example:

Recording form: 7:30 to 09:30, everyday

4.7 Installer Setup

4.7.1 Date/Time Setup

Main Menu → Installer Setup → Date/Time Setup

Figure 4.7.1: Timer Setup.

1. Y/M/D

Use this item to set year, month, and date.

2. H/M/S

Use this item to set hour, minute, and second.

3. Exit/Update

Save configurations then exit.

4. Exit/Without Update

Exit without save configurations.

4.7.2 LAN Setup

Main Menu → Installer Setup → LAN

Figure 4.7.2: LAN.

Use this menu to specify ***IP***, ***IP Mask***, and ***Gateway***.
Please contact with your MIS for network settings.

1. IP

0~255: IP value

2. IP Mask

0~255: IP Mask value

3. Gateway

0~255: Gateway value

NOTE: After setting the configurations of LAN, please restart the DVR.

4.7.3 RS-485 Setup

Main Menu → Installer Setup → RS-485

Figure 4.7.4: RS-485.

NOTE: This RS485 setting is for the RS485 located at the rear-panel of DVR.

1. Baud Rate:
   Use this item to define the data transfer speed of dome. Baud rate must be complied with protocol (item 3).

   2400, 4800, 9600, 19200, 38400: Baud rate.

2. ID:
   Use this item to define the RS485 ID of DVR. External (Third party) control keyboard can summit command to this ID to control DVR.

   0~255: ID number.

3. Protocol:
   Use this item to define the protocol of speed dome.
   Dynacolor, Pelco_P, Honeywell, System AV, Eastel, Lilin, Pelco_D: Dome protocol.

4.7.4 Camera ID Setup

Main Menu → Installer Setup → RS-485 → Set Camera RS-485 → Camera #

Figure 4.7.4: Camera ID Setup

1. Camera ID:
   Use this item to define the RS485 ID of each camera. This camera ID must be complied with the ID switch of dome. If the camera ID is incorrect, the DVR will not control the specific dome.

   0~255: ID number.

2. Camera 485 Enable:
   Use this item to define the RS485 ID of each camera. This camera ID must be complied with the ID switch of dome. If the camera ID is incorrect, the DVR will not control the specific dome.

   ✓ **:** Enable dome controller.
   ✗ **:** Disable dome controller.

   NOTE: Please refer to section 6.2 "How to Control PTZ Camera" for operation.

4.7.5 Password Setup

Main Menu → Installer Setup → Password Setup

Figure 4.7.5: Password Setup.

1. Play Password Level
   This item specifies the at least authorized level to do playback. User's password level must be higher than the setting to do playback. Level 7 is the highest priority.

2. Play Covert Level
   This item specifies the at least authorized level to watch covert camera. User's password level must be higher than the setting to watch covert camera. Level 7 is the highest priority.

4.7.6 Password Management

Main Menu → Installer Setup → Password Setup → Password Manage

Figure 4.7.6.1 Password Management

This table lets you manage ID accounts.

1. Password Management
   The DVR provides 99 IDs. Administrator can set level and password for each ID. The DVR divides the level into 7 degrees. The most priority is level 7. Administrator's level is 7.

2. Password must have at least 1 character and up to 16 characters. Character must be 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Only administrator can change password of each ID.

NOTE: The 100th ID is reserved. Users can't use it.

Example:

Figure 4.7.6.2 Password Dialog

The administrator sets ID2 for: Level 2.
Password: 111111111111.

4.7.7 Auto Demo

Main Menu → Installer Setup → Auto Demo

Figure 4.7.7: Auto Demo.

1. Start Record Macro:
   After entering “Start Record Macro”, the DVR starts to record user actions until user enters “Stop Record Macro”. The recorded macro can be used as demo.

2. Stop Record Macro:
   Enter this item will stop recording macro.

3. Play Demo:
   You can play the recorded macro when you want to demo the DVR.

4.7.8 Make Boot Disk

Main Menu → Installer Setup → Make Boot Disk

Figure 4.7.8: Make Boot Disk.

1. Import To MDVR
   Enter this item to copy new system from new CF card to old CF card that located inside of the MDVR. Using this function, user can upgrade system easily by CF card.

2. Copy System To CF
   This item is to copy current system to other CF card.

4.7.9 Compress Information

Main Menu → Installer Setup→ Compress Information

Figure 4.7.9.1 Compress Information

1. Compress Information
   If this function is enabled, the DVR will show the current compress information for each camera.

✓ : Enable this function.
✗ : Disable this function.

Figure 4.7.9.2: Information of Camera 1.

I: Size of I frame.
P: Size of P frame.
A: Average size (A = (15*P + I)/16)

R: Current frame rate for this camera

In figure 5.7.9.2, I frame is 40.96K bytes, P frame is 0.123K bytes, Average is 0.387K bytes, and current frame rate is 15.

4.8 System Information

4.8.1 DVR

Main Menu → System Information → DVR

Figure 4.8.1: DVR Information

1. Software

   This item provides software information, including version and date.

2. Hardware

   This item provides hardware information, including serial No., system mode.

3. Driver

   This item provides driver information.

4.8.2 Disk

Main Menu → System Information → Disk

Figure 4.8.2: Disk.

1. MDVR
   This item provides current HDD information, including Space, LBA, Defect Warning, Defect Bad, Start time, and Stop time.

2. RAID 0/1/2/3
   This item provides HDD information in each RAID Disk, including Space, LBA, Defect Warning, Defect Bad, Start time, and Stop time.
   Use select item. Use or - I + select HDD then press ENTER to check current information.

4.8.3 Video Size

Main Menu → System Information → Video Size

Figure 4.8.3: Video Size.

Video size shows you the average image size in the last 24 hours.

Use to select camera. User can review the video size to find out which camera is hard disk consuming.

4.9 Save/Load Configurations

4.9.1 Save/Load

Main Menu → Save/Load

Figure 4.9.1: Save/Load.

1. Load Factory
   Use this item to load factory default configurations.
   User must to do Save User for next power on.

2. Load Installer
   Use this item to load installer specified configurations.
   User must to do Save User for next power on.

3. Load User
   Use this item to load user specified configurations.
   User must to do Save User for next power on.

4. Save Installer
   Use this item to save installer specified configurations. ID level must be higher than 6 to execute this item.

5. Save User
   Use this item to save user specified configurations.
   Next power on, this unit will load user configurations.

NOTE: All changed configurations need to be saved before power-off.

Chapter 5 System Operation

Please note that the system configuration and setting described in this chapter. The examples are many possible system configurations and applications. This chapter expects that reader has common sense of DVR and is familiar with basic operation.

5.1 How to Set Recording

5.1.1 Sample System Configuration

1. 16 cameras
2. Frame rate configuration

Camera	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Normal Frame Rate (fps)	10	10	8	8	6	6	5	5	4	4	3	3	2	2	2	2
Motion Frame Rate (fps)	10	10	10	10	X	X	X	X	X	X	X	X	X	X	X	X
Alarm Frame Rate (fps)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

X: No motion detection

Record Quality: two stars
Record resolution: 720x480 (NTSC)

3. Alarm in and alarm out configuration
   The system expects 4 alarms in, 1 relay out, and 4 alarms out.
   All alarms in are normal open.
   Alarm 1 will trigger camera 1, 2, 3, 4.
   Alarm 2 will trigger camera 5, 6, 7, 8.
   Alarm 3 will trigger camera 9, 10, 11, 12.
   Alarm 4 will trigger camera 13, 14, 15, 16.
   Alarm/Motion of Camera 1 will trigger relay out and alarm out 1.
   Alarm/Motion of Camera 2 will trigger relay out and alarm out 2.
   Alarm/Motion of Camera 3 will trigger relay out and alarm out 3.
   Alarm/Motion of Camera 4 will trigger relay out and alarm out 4.

4. Motion detection configuration
   Camera 1, 2, 3, and 4 need motion detection.
   All cameras (except 1, 2, 3, and 4) don’t do motion detection

5. Schedule and recording time configuration

   Camera 1, 2, 3, and 4

Schedule	00:00~24:00, everyday
Alarm In Recording Time	30 sec
Motion Recording Time	20 sec

   Camera 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16

Schedule	08:00~18:00, everyday
Alarm In Recording Time	30 sec
Motion Recording Time	No motion detection

5.1.2 Schedule Setting

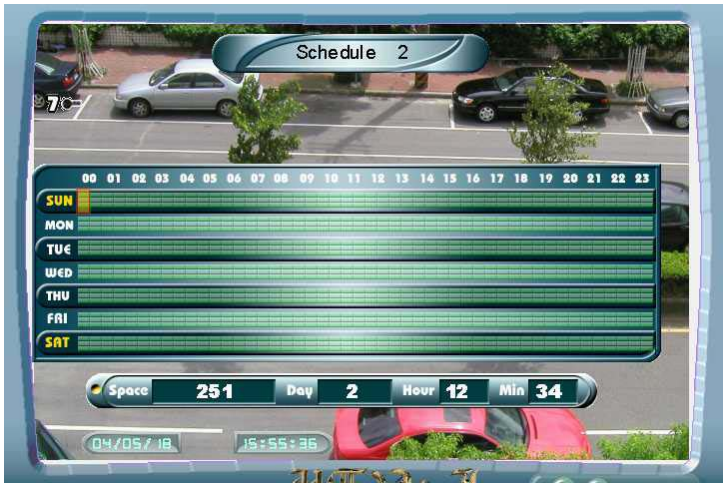
We need to create two schedules, one is full time everyday, and the other is 08:00 ~ 18:00 everyday. The following two schedules: schedule 1 is full time everyday, schedule 2 is 08:00~18:00 everyday.

Use to change the cursor type. Use to navigate the schedule. Use to enable/disable time zone.

1. Main Menu → Schedule → Schedule 1

Schedule 1 is a full time schedule.

2. Main Menu → Schedule → Schedule 2



Schedule 2 is from 08:00 to 18:00.

5.1.3 Alarm In and Alarm Out Setting

1. Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm In Type

Set alarm 1, 2, 3, and 4 as normal open.

Set alarm delay time for alarm 1,2,3,4 is 5 seconds.

Use to select channel. Use to change the alarm in type.

2. Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm In Event

Alarm 1 will trigger camera 1, 2, 3, 4.

Alarm 2 will trigger camera 5, 6, 7, 8.

Alarm 3 will trigger camera 9, 10, 11, 12.

Alarm 4 will trigger camera 13, 14, 15, 16.

Use to navigate the table. Use to set relations.

3. Main Menu → Alarm/Motion Setup → Alarm Input & Output → Alarm Out Enable

Alarm/Motion of Camera 1 will trigger relay out and alarm out 1.
Alarm/Motion of Camera 2 will trigger relay out and alarm out 2.
Alarm/Motion of Camera 3 will trigger relay out and alarm out 3.
Alarm/Motion of Camera 4 will trigger relay out and alarm out 4.

Use to navigate the table. Use to set relations.

4. Main Menu → Alarm/Motion Setup → Alarm Response

Set **Internal Buzzer** enabled.
Set **Alarm Full Screen** enabled.
Set **Response Duration** is one second.
Set **Any Key To Stop** enabled.
Set **Display Event Label** enabled.

Use to select item. Use to disable/enable.

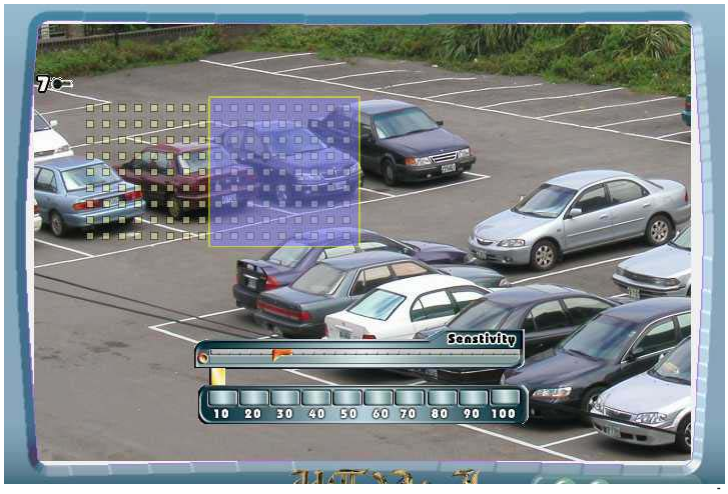
5. Main Menu → Alarm/Motion Setup → Alarm Response → Alarm List

Set **Alarm In List** enabled. Alarm in event will be recorded in event list.
Set **Motion List** enabled. Motion event will be recorded in event list.
Set **Video Loss List** enabled. Video loss event will be recorded in event list.
Set **Freeze List** enabled. Freeze event will be recorded in event list.

Use to select item. Use to disable/enable.

5.1.4 Motion Detection Setting

Main Menu → Alarm/Motion Setup → Motion → Channel 1
Main Menu → Alarm/Motion Setup → Motion → Channel 2
Main Menu → Alarm/Motion Setup → Motion → Channel 3
Main Menu → Alarm/Motion Setup → Motion → Channel 4



Use to change the cursor type. Use to navigate the screen. Use to enable/disable motion zones.

5.1.5 Frame Rate, Quality, and Recording Time Setting

1. Main Menu → Record

Set **Record Enable** enabled.
Set **Record Quality** as two stars.
Set **Resolution** as 720x480.
Use to select item. Use to change value.

2. Main Menu → Record → Frame Rate

Frame Rate
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 Alarm Sche
2 Motion Sche
3 Normal Prio
4 Normal Sche
5 Force Compress
Space 251 Day 2 Hour 8 Min 27

Use this table to set frame rate and schedule for each camera.

Camera	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Normal Frame Rate (fps)	10	10	8	8	6	6	5	5	4	4	3	3	2	2	2	2
Motion Frame Rate	10	10	10	10	X	X	X	X	X	X	X	X	X	X	X	X

(fps)																
Alarm Frame Rate (fps)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Use to select camera. Use to change value.

5.1.6 Enable Recording

1. Main Menu → Alarm/Motion Setup

Set **Alarm In REC** enabled. If alarm is triggered, the DVR will record.

Set **Alarm In Active** enabled. If alarm is triggered, the DVR will response.

Set **Motion REC** enabled. If motion is triggered, the DVR will record.

Set **Motion Active** enabled. If motion is triggered, the DVR will response.

Use to select item. Use to disable/enable.

2. Main Menu → Record

Set **Record Enable** enabled.

Use to select item. Use to disable/enable.

5.1.7 Check Recording

1. Is HDD status in keyboard flash?
2. Trigger alarm in.
3. Trigger motion.
4. Check event list.
5. Playback.

5.2 How to Estimate Recording Time

1. Main Menu → Record → Frame Rate

Frame Rate
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 Alarm Sche
2 Motion Sche
3 Normal Prio
4 Normal Sche
5 Force Compress
Space 251 Day 2 Hour 8 Min 27
04/03/30
14:00:06

2. Main Menu → Record

When you change the frame rate, record quality, or resolution, the DVR will show you the total recording time. For example, in the above figure, the DVR has 167G bytes storage space, and the space can record 2 days, 22 hours, and 53 minutes.

User can use this function to estimate how many HDD are needed.

5.3 Image Backup System

This section introduces HDD recording image backup method.

Note: Please make sure there is enough empty space in the CF card for image backup.

5.3.1 CF Card Backup System

To backup HDD image by CF card, please follow the steps below:

Step1: To go to the Backup menu

(1) Press on the keyboard to select the image channel.

(2) Press key on the keyboard to and use and key to select time to review the image which is going to backup.

Figure: 5.3.1.1: Playback Model

Note: Prior backup, please check for sure that there is no empty time lapse or a interrupted time in the backup image. This will cause error of CF card backup.

(3) Press “MENU”

key on the keyboard to enter Backup menu.

Figure: 5.3.1.2: Backup Menu

Step2: Format CF card

(1) IF CF card has not been formatted, select “Format CF Card,” and then press “Enter.”

Figure: 5.3.1.3: Format CF Card

Note: The CF card can be only formatted by the MDVR to back up. Using CF Card which has been formatted by PC will cause error. If CF card has been formatted by the MDVR, please skip the format step.

(2) After enter “Format CF Card” selection, the system will display a “Yes/No” screen. Select “Yes” to format CF card and “No” to escape.

: To select section

: To enter

Step3: Select the “Start Time” and “Stop Time” to Backup

CF Card Backup
1 Start Time 2003 / 07/ 08 11 : 30 : 13
2 Stop Time 2004 / 07/ 08 11 : 30 : 18
3 Save To CF Card
4 Format CF Card
5 List Files
04/07/08
04/07/08
Figure: 5.3.1.4: backup length time image

: To select section

: To select values

Step4: Select “Save to CF Card”.

CF Card Backup
1 Start Time 2003 / 07/ 08 11 : 30 : 13
2 Stop Time 2004 / 07/ 08 11 : 30 : 18
3 Save To CF Card
4 Format CF Card
5 List Files
04/07/08
04/07/08
Figure: 5.3.1.5: Save To CF Card

: To select sections

: To enter

Note: (1) Backup image of CF card can only be read in PC “NetView” application. To view the backup image of CF card, please refer NetView user manual for more information.

(2) The newest backup image in CF card will be the last image file.

Chapter 6 Trouble Shooting

6.1 Installation

6.1.1 The DVR is not power on

Please verify that the AC power cord is connected properly to an AC outlet and the DVR.

If the DVR is connected to a switch outlet on another unit, verify that unit is powered on.

6.1.2 Power is on, but the DVR dose not operate

Please verify that the RS-485 cable is connected properly to the DVR and the Multi-keyboard.

Please check if the 8 LEDs lights of the keyboard are on, which means the keyboard “LOCK” function is active. Please press “LOCK” key on the Multi-keyboard for 3 sec to release the “LOCK” status.

6.1.3 Images are not showing on the monitor

Please verify if the monitor and the camera(s) are connected correctly.

Verify that the BNC/VGA switch is set to confirm with the monitor.

6.1.4 The picture quality on the monitor is poor

Please check if the connectors are connecting correctly.

Verify that the NTSC/PAL switch is set suitably.

Please check if the camera focus is adjusted properly.

6.2 Recording

6.2.1 The DVR will not start recording

Please check if there any recording space left on the disk.
Please check if the recording schedule is active.
Please check if the recording schedule is setting correctly.
Please check if hard disk installed correctly.

6.2.2 The DVR can not perform alarm recording

Please check if the unit is in stand-by mode.
Please check if the peripheral switches, etc., is connecting correctly.
Please check if the alarm-in event is set correctly.

6.3 Playback

6.3.1 The DVR can not perform playback

Please check if the LOCK indicator light is on.

6.4 Others

6.4.1 The DVR will not detect motion

Please check if the MOTION DETECTION ZONES is setting ON in the Motion menu.
Please check if the MOTION SENSITIVITY is setting too large to trigger motion event.

Appendix A: Specifications

Specification

Model		**XD-S16200**
Function	No. of cameras	16
	Display format	1, 4, 6, 7, 9, 10, 13, 16, PIP1, PIP2
	Image output	Dynamic video display
	Multiplex mode	Quadruplex (Live/Record/Playback/Ethernet)
	Display resolution	720x576 (PAL)
	Display frame rate	400FPS(PAL)
	Color	16M colors (Y:8, U:8, V:8) 4:2:2
	Main monitor output	BNC, S_Video, or VGA
	Size of camera title	16 characters per camera
	Freeze	Yes
	Key lock function	Yes
	Zoom in mode	Yes (2x2)
	Looping	Terminator 75 Ohm (switch select)
	Auto sequence display	7 sequence modes
	Split display mode	10 modes
	Covert	Yes
	Password	100 sets
	Watch dog	Yes
Record	Resolution	PAL: 720x576, 656x528, 512x448, 720x288, 656x256, 512x224, 352x288
	Frame rate	200 fps 12.5 frames(PAL) / sec per each camera
	Recording quality	5 levels
	JPEG	Yes
	PROPRIETARY (MPEG-2 like)	Yes
	Average compression rate	More than 100:1
	Pre-recording	3 sec ~ 5 sec
	Post-recording	1 sec ~ 255 sec (programmable)
Playback	Search mode	File search, event search, time frame search
	Search speed	Pause, frame, sec, min, hour, date
	Playback speed	Pause, x1, x16

	Multi-channel playback	NO
Connector	Video in BNC	16
	Video out BNC	1
	Video out S-Video	1
	Video out VGA	1
	Ethernet	RJ45 (10/100M) x1
	Remote keyboard	RJ11 x1
	RS-485	RJ11 x1
	DSUB25	Alarm in x16, alarm out x4, relay out x1
	Disk array	RAID socket x 2
Alarm/Motion	Motion detection resolution	45x30 zones per camera
	Motion detection sensitivity	100 levels
	Video loss indication	Yes
	No. of alarm outputs	4
	No. of alarm inputs	16
	Alarm real time record	Yes
	Alarm delay	0, 1, 5, 10, 15, 20, 30, 45, 60, 75, 100 sec
Event	Size of event list	1024 events per disk
	Event source	Alarm, motion, video loss, power on, power off, freeze
Ethernet	NetView Support	Yes
HDD	Internal HDD	Max. 4 (Up to 1 Tera-byte)
	Support disk array	Max. 32 hard drives (4pc XD-RAID8-2T)
	Size of hard drive	60GB ~ 250GB (Max 4HDD)
Backup	Remote Backup	NetView
	CF Card	2 (System & Backup)
RS-485	PTZ camera	Yes
IR Remote Control	Controller	1
	Control distance (Max)	9M
Remote Keyboard	Power	DC 12V
	Signal cable distance (Max)	1000M
Specification	Multi-keyboard function	Yes
	Power on	25 sec
	Voltage range	100V ~ 240V
	Power standard (include 1 HDD)	45W
	Power MAX	90W
	Operating temperature	5 ~ 40 ℃

	Operating relative humidity	10 ~ 75 %
	Weight (Include remote keyboard)	5.7 Kg
	Dimension	438(L) x 432 (W) x 84 (H) mm

Appendix B: Recording Time and HDD Space

Unit: KB

Quality	Mode	720X480	656X448	720X240	656X224	Remark
Fine	I	50.00	29.40	25.00	21.26	Average = (I + 15*P) / 16
	P	10.00	8.00	5.00	4.00	
	Average	12.50	9.34	6.25	5.08	
Standard	I	36.00	30.77	18.00	15.38	
	P	7.20	6.15	3.60	3.08	
	Average	9.00	7.69	4.50	3.85	
Normal	I	32.00	27.35	16.00	13.68	
	P	6.40	5.47	3.20	2.74	
	Average	8.00	6.84	4.00	3.42	
Long	I	30.00	25.64	15.00	12.82	
	P	6.00	5.13	3.00	2.56	
	Average	7.50	6.41	3.75	3.21	

Unit: Hour

		80GB(4 Channel)				Remark
Quality	Frame rate	720X480	656X448	720X240	656X224	
Fine	30	14.81	19.83	29.63	36.46	
	15	29.63	39.67	59.26	72.93	
	10	44.44	59.50	88.89	109.39	
	6	74.07	99.16	148.15	182.32	
	3	148.15	198.33	296.30	364.63	
	2	222.22	297.49	444.44	546.95	
Standard	30	20.58	24.07	41.15	48.15	
	15	41.15	48.15	82.30	96.30	
	10	61.73	72.22	123.46	144.44	
	6	102.88	120.37	205.76	240.74	
	3	205.76	240.74	411.52	481.48	
	2	308.64	361.11	617.28	722.22	
Normal	30	23.15	27.08	46.30	54.17	
	15	46.30	54.17	92.59	108.33	
	10	69.44	81.25	138.89	162.50	
	6	115.74	135.42	231.48	270.83	
	3	231.48	270.83	462.96	541.67	
	2	347.22	406.25	694.44	812.50	
Long	30	24.69	28.89	49.38	57.78	
	15	49.38	57.78	98.77	115.56	
	10	74.07	86.67	148.15	173.33	
	6	123.46	144.44	246.91	288.89	
	3	246.91	288.89	493.83	577.78	
	2	370.37	433.33	740.74	866.67	

Appendix C: Glossary

B

BNC
BNC, Bayonet Neill Concelman (or British Naval Connector) (or Bayonet Nut Connector), is a bayonet-style connector which is put in then turn to lock in and used with coaxial cable.

C

CF Card
CF (Compact Flash) Card is a type of the flash memory card.

D

Dome
Dome is a type of PTZ Camera.

F

FCC
FCC, Federal Communications Commission, a United States government agency, was established in 1934 by the Communications Act. The FCC supervises the United States interstate and international of communications by radio, television, wire, satellite and cable.

Frame Rate
Frame Rate is the number of times per second that the image frame is completely scanned in DVR.

I

IDE
IDE (Integrated Drive Electronics) is a disk drive interface standard based on the IBM PC integrated systems architecture 16-bit bus.

J

JPEG
JPEG is a commonly image compressing standard which designed by Joint Photographic

Experts Group.

M

MPEG

MPEG, The Moving Picture Experts Group, is a working group of ISO/IEC in charge of the development of international standards for compression, decompression, processing, and coded representation of moving pictures, audio and their combination.

N

NTSC

NTSC, National Television System Committee, is responsible for setting television and video standards in the United States. The NTSC standard for television defines a composite video signal with a refresh rate of 60 half-frames per second. Each frame contains 525 lines and can contain 16 million different colors.

P

PAL

PAL, Phase Alternating Line, is the dominant television standard across Europe delivering 625 lines at 50 half-frames per second.

Protocol

Protocol is a data transmission rule across a network.

PTZ Camera

Pan-Tilt-Zoom Camera

R

RJ-11

RJ-11, Registered Jack-11, is more commonly known as a phone jack. A RJ-11 is a four or six wire connection primarily used for telephones and computer modem connectors in the United States.

RJ-45

RJ-45, Registered Jack-45, is a connection used for Ethernet network adapters.

RS-485

RS-485 is an Electronic Industry Association standard for multi-port communications. RS-485 supports such connectors as DB-9 and DB-37.

S

Stand-Alone System

Stand-Alone System is self-contained and usually independently operating.

V

VGA

VGA, Video Graphics Array, is a graphics display system for PCs developed by IBM. VGA uses analog signals rather than digital signals. In text mode, VGA systems provide a resolution of 720 by 400 pixels. In graphics mode, the resolution is either 640 by 480 (with 16 colors) or 320 by 200 (with 256 colors). The total palette of color is 262144.

NETVIEWER USER GUIDE

About This Software

Netviewer is a remote software application designed to work with XD-8916 series DVRs, and it enables users to view live and recorded videos from remote XD-8000 units on your PC. Please note that Netviewer is proprietary software, there is no other device that can be applied to this software.

Features

1. Remote viewing of live video
2. Remote viewing of recorded video
3. Files play from local HDD
4. Download HDD image data from DVR

Before installing this software

1. Make sure if LAN cable connects properly with DVR and PC.
2. Make sure if ADSL or modem is connected/dial-up to the internet
3. Make sure if IP address setting is correct.

System Require

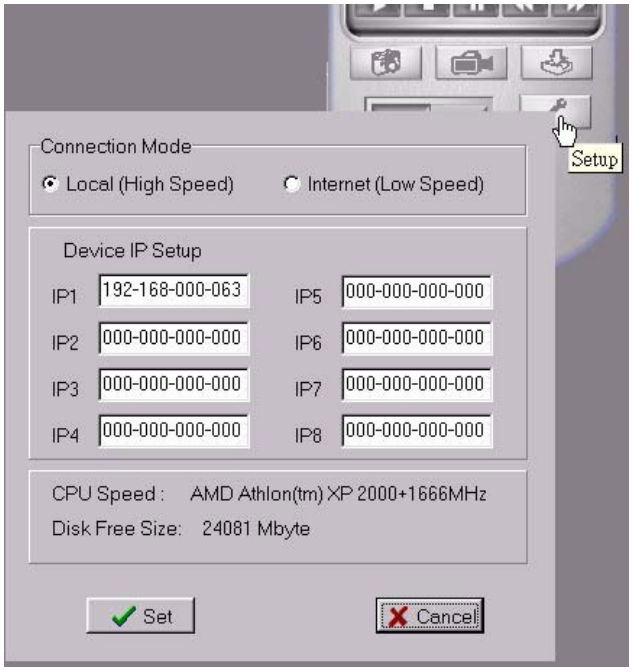
OS: Windows 2000
CPU: Pentium III 800 or Compatible
RAM: More then 128MB
LAN card 10/100 Base-T
ADSL modem (if connect to internet)

User interface introduction

1. **Exit** button
2. **Connection** button
3. View live video
4. Remote playback
5. Play saved file
6. Information display screen
7. Channel Display Selection
8. **Play** button
9. **Stop** button
10. **Pause** button
11. **REW** button
12. **FFW** button
13. **Image Capture** button
14. **Start/Stop Recording** button
15. **Download set** button
16. **System setup** button
17. **Display Mode Selection** button

Operation Flow

1. System Setup

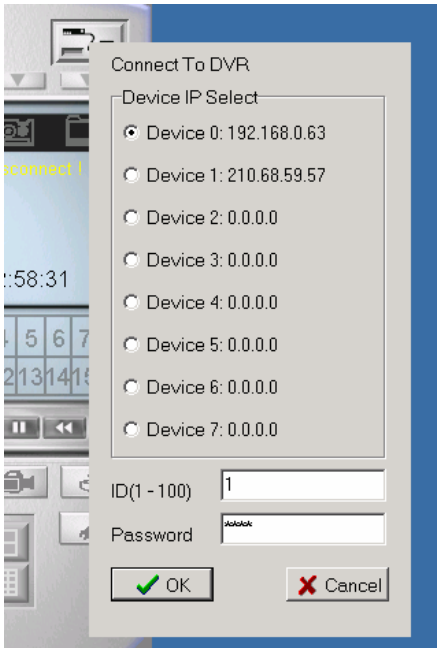


Press “Setup” button to set DVR IP address and NET condition. IP address can be found from installer setup of DVR menu item. Set IP address by your network environment.

Local/High speed is used for high transfer rate connection (Ethernet).

Internet/Low speed is used for low transfer rate connection (ADSL).

2. Connect to DVR



After clicking **Connection,** the connect selection window will pop up. Select device IP and input password to access DVR connection.

3. Select view source

3.1 Remote Live View

Click live button to set view live image.

3.1.1 Show Live Image

Click Play button will show channel select window. Select channel view and click OK to view image.

** In high speed mode you can select up to 4 channel at once. In low speed mode only select one channel in each group. (Group 1: 1- 4, Group 2: 5-8, Group 3: 9-12, Group 4: 13-16)

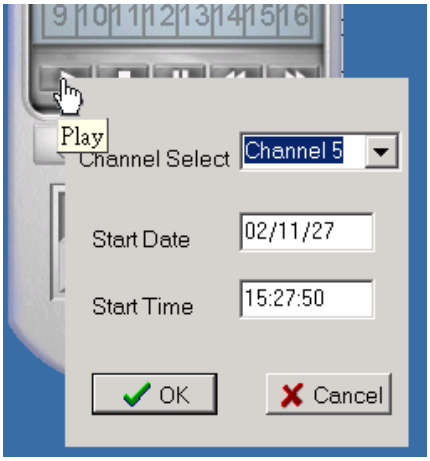
3.1.2 Change View Channel

Use mouse's left button to select viewing window then click right button of mouse will show channel select button.
Click other channel to change image channel.

3.2 Remote Playback

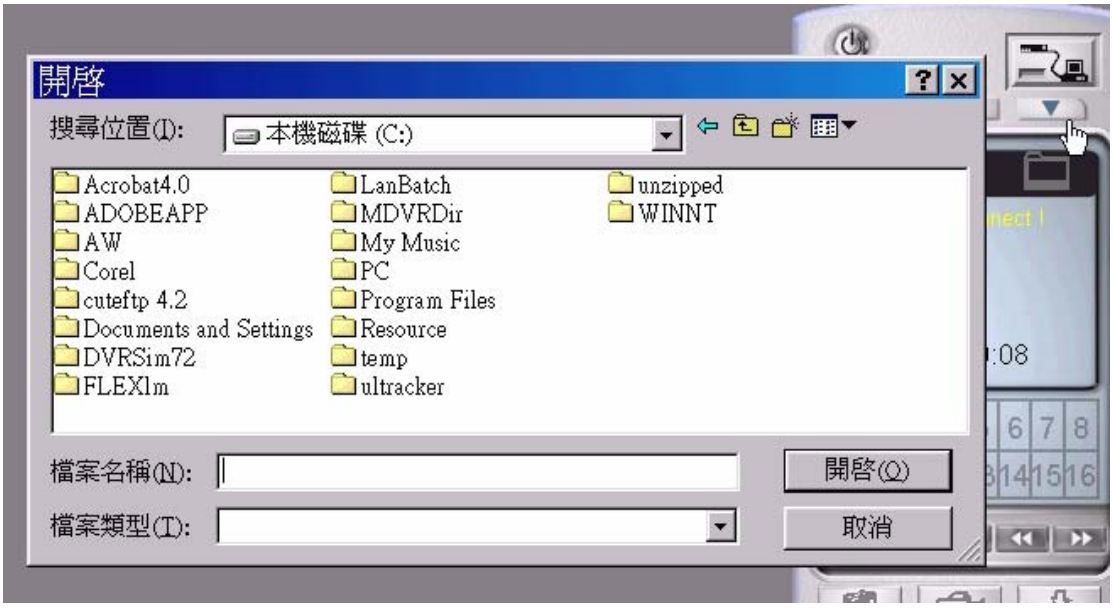
Click playback button to view the DVR HDD image.

3.2.1 View playback image



In remote playback mode click play button will pop up remote playback set window. Select playback channel and time to load image data from DVR.

3.3 Play Save File



Click Play save file button will pop up file open dialog. Please select correct media file(*.MJP)to load.

3.3.1 Play File

Click play button to view selected file.

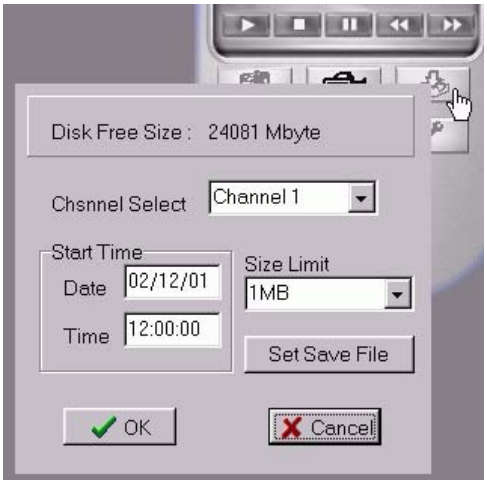
4. Capture Image

Click Capture button and select files type to save.
The image will save to sub-directory “Data” of default path (where your application installed). You can view and edit image use other application (like Photoshop, PhotoImpact…etc)

5. Record Image

Click Record button enable recording image show in the display window. Each different channel will save by different name. You can find out all those files in directory same as the capture path.

6. Download HDD Image



Click download button (Only in stop status) set download channel, time, size and save files name then click OK. The application will load image data from DVR HDD.
You can use PLAY SAVE FILES function to view the download files.

Trouble Shooting

Item	Question	Possible Reason	Remark
1	Can not execute program	This program only tested on Windows 2000 and Windows 98SE, Please make sure your OS is correct.	If still have problem please contact your dealer.
2	Can not connect to DVR	Make sure the LAN cable was connection correct. Make sure input IP address is correct. Try to use “PING” function on your PC to confirm the DVR connection.	
3	Connect is OK, but Image can’t show.	Check your OS version. If you are using playback or download function. May be the image you search is not existed in DVR.	
4	Can’t connect to DVR use ADSL.	Check IP address setting in DVR and this software. The IP address must a fixed IP on DVR side.	
5	The image showing is very slow	Check your PC performance. Close other application on your PC. Check LAN status, may be LAN transmit ion is jam.	